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Turridae [*s.l.*] (Mollusca: Gastropoda) of southern Africa and Mozambique. Part 7. Subfamily Crassispirinae, section 2.

by

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ABSTRACT

Genera *Anacithara* Hedley, 1922, and *Antiguraleus* Powell, 1942, are transferred from the Mangeliinae to the Crassispirinae.

New genus: *Striatoguraleus*, type species *Drillia thetis* E. A. Smith, 1904.

New species: *Anacithara subrissoina*, *A. angulicostata*; *Striatoguraleus himaeformis*, *S. electrinus*, *S. vellicatus*, *S. laticulmen*; *Antiguraleus necostatus*, *A. sericeus*, *A. galatea*.

New synonyms: *Anacitharoida* Shuto, 1965 = *Anacithara* Hedley, 1922. *Graciliclava mackayensis* Shuto, 1983 = *Clavus costatus* Hedley, 1922.

New combinations: Transferred to genus *Anacithara*: *Drillia simplex* Turton, 1932, *Drillia ione* Melvill & Standen, 1896, *Pleurotoma (Mangilia) modica* E. A. Smith, 1882, *Pleurotoma (Mangilia) minutistriata* E. A. Smith, 1882, *Clathurella lita* Melvill & Standen, 1896, *Mangilia (Daphnella) dulcinea* Melvill & Standen, 1895, *Drillia themeropsis* Melvill & Standen, 1896, *Pleurotoma (Mangelia) levukensis* Watson, 1881, *Pleurotoma (Mangilia) platycheila* E. A. Smith, 1882. Transferred to genus *Striatoguraleus*: *Drillia thetis* E. A. Smith, 1904. Transferred to genus *Antiguraleus*: *Drillia morgana* Barnard, 1958, *Drillia perfluans* Barnard, 1958.

Types figured (* = for the first time): Syntypes of *Drillia ione* Melvill & Standen, 1896, *Drillia themeropsis* Melvill & Standen, 1896, *D. xanthoporphyria* Melvill & Standen, 1896. Holotype of *Pleurotoma (Mangilia) modica* E. A. Smith, 1882*, *Pleurotoma (Mangilia) minutistriata* E. A. Smith, 1882*, *Mangilia (Daphnella) dulcinea* Melvill & Standen, 1895, *Pleurotoma (Mangelia) levukensis* Watson, 1881, *Pleurotoma (Mangilia) platycheila* E. A. Smith, 1882*, *Drillia morgana* Barnard, 1958, *Drillia perfluans* Barnard, 1958. Lectotypes (here designated) of *Drillia thetis* E. A. Smith, 1904, *Mangilia querna* Melvill, 1910, *Clathurella lita* Melvill & Standen, 1896.

INTRODUCTION

This paper deals with two genera previously referred to the subfamily Mangeliinae[1], namely *Anacithara* and *Antiguraleus*, and the new genus *Striatoguraleus*. Indeed, it was originally drafted as the third part of my revision of the Mangeliinae of southern Africa and Mozambique. However, a specimen of an undescribed *Anacithara* from Zululand, closely comparable with the type species of that genus, was found to contain a dried body, from which a radula was extracted. This proved to be significantly similar to that of *Haedropleura* Monterosato, 1883, demonstrating that *Anacithara* should be transferred to the subfamily Crassispirinae. The presence of an operculum is another non-mangeliine character.

I am similarly transferring *Antiguraleus* to the Crassispirinae, as the foregut anatomy (*pers. comm.* J. Taylor) of at least one South African species is non-mangeliine, and a wishbone-shaped radula appears to be present.

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[1] Under the reclassification of the Conoidea recently published by Taylor, Kantor & Sysoev (1993), the subfamily Mangeliinae should now be referred to the family Conidae.

ABBREVIATIONS

a/l = ratio of aperture length (measured along main shell axis) to total shell length.
b/h = ratio of maximum protoconch breadth to its height.
l/h = ratio of shell breadth to total length.
AMSA = The Australian Museum, Sydney.
BMNH = The Natural History Museum, London.
MHNP = Muséum National d'Histoire Naturelle, Paris.
MMUE = Manchester Museum, The University, Manchester.
NMSA = Natal Museum, Pietermaritzburg.
NMDP = Natal Museum Dredging Programme.
OXUM = Oxford University Museum, Oxford.
SAMC = South African Museum, Cape Town.
ZMHB = Zoologisches Museum, Humboldt University, Berlin.

TAXONOMY

Anacithara Hedley, 1922

Anacithara Hedley, 1922: 300. Type species (o.d.) *Mangilia naufraga* Hedley, 1909.
Anacitharoïda Shuto, 1965: 182. Type species (o.d.) *A. kurodai* Shuto, 1965. **Syn. n.**

Diagnosis: Shell small (3–10 mm), shape more or less claviform, with blunt apex and moderately short base, aperture relatively wide; whorls usually adpressed below suture, not forming a bordering ridge. Sculptured by axial ribs, not continuous from whorl to whorl, often crenulating suture; overridden by spiral threads, usually crossed by a microsculpture of very fine collabral threads (sometimes interstitial). First teleoconch whorl often with an initial (annectent) stage of close, rather irregular, axial riblets. Siphonal canal with base rather squarely truncate, tip not or very shallowly indented. Outer lip with a strong to massive varix, anal sinus relatively shallow, asymmetrically U-shaped; stromboid notch distinct; outer lip smooth inside, inner lip smooth except for microscopic granules and a slight callus pad near posterior angle of aperture. Protoconch paucispiral, narrowly domed or slightly papilliform, smooth or with a few terminal axial riblets, rarely with a weak angle on the last whorl. Operculum oblanceolate, with terminal nucleus. Radula crassispirine, with blade-like marginal plates, whose cutting edge lies at right angles to main axis, and a thin accessory limb; basement membrane flimsy.

Notes: There are no prior records of the genus *Anacithara* from South Africa, other than the erroneous statement by Kensley (in Barnard, 1969: 610) that *Mangilia alfredi* Smith, 1904, and *M. amplexa* Gould, 1860, 'have been placed in the genus *Anacithara* (Hedley, 1922)'. I know of no authority for this claim (Hedley himself (1922: 312) referred *amplexa* to *Guraleus* Hedley, 1918). In fact only one described South African species can (at least provisionally) be referred to *Anacithara*, namely *Drillia simplex* Turton, 1932; when its radula or anatomy are known even that may prove not to be turrid but to belong to the Columbellidae. However, two undoubted species of *Anacithara* have been dredged on the fringes of the tropical Indo-Pacific region in Zululand.

In order to verify that these Zululand species were indeed undescribed, it proved necessary to broadly survey the described Indo-Pacific turrids that appear to belong to *Anacithara*. To those listed by Powell (1966: 111) may be added the following: *Anacithara perfecta* Kay, 1979, from Hawaii (Kay, 1979: 350, Fig. 116 A); *Drillia ione* Melvill & Standen, 1896, *D. themeropsis* Melvill & Standen, 1896 (= *D. xanthoporphyria* Melvill & Standen, 1896), and *Mangilia (Daphnella) dulcinea* Melvill & Standen, 1895, from Lifou; *Pleurotoma (Mangilia) levukensis* Watson, 1881, from Fiji; *Pleurotoma (Mangilia) modica* E. A. Smith, 1882, from 'Japan?'; *P. (M.) minutistriata* E. A. Smith, 1882, and possibly *P. (M.) platycheila* E. A. Smith, 1882, both from unknown locality. I have examined type material of all those listed here, except for *A. perfecta*.

Hedley (1922) erred in listing *Mangilia nanisca* Hervier, 1897 (from Lifou) and *M. osumiensis* Sowerby, 1913 (from Japan) as members of genus *Anacithara*. The inner lip in syntypes of *nanisca* bears two median denticles, and the outer lip shows a posterior nodule and sometimes traces of denticles anteriorly. Such apertural features are unknown in *Anacithara*. Vestiges of two folds are similarly visible on the inner lip of the holotype of *osumiensis*. Hedley was probably also incorrect in referring here *Pleurotoma undaticosta* Reeve, 1845; the original figure of that (Reeve 1843-46a: pl. 31, fig. 284, locality unknown) shows a shell that appears to be too fusiform in shape for *Anacithara*. The lack of detail in Reeve's figure and the fact that the type (originally in that author's possession) is now lost, precludes any possibility of recognising this taxon.

Material from the Pleistocene of Japan, figured by Shuto (1965: pl. 34, figs 4, 5, 7) as '*Anacithara (Anacithara) fortistriata*', is certainly referable to this genus; however, it shows scant resemblance to any of the syntypes of the composite *Pleurotoma (Mangilia) fortistriata* E. A. Smith, 1888, none of which is an *Anacithara* (see Kilburn, 1993: 362). Similarly, *P. decipiens* Smith, 1888 (*non* Deshayes, 1865), referred to *Anacithara* by Shuto (1965: 180), certainly does not belong here. Finally, in his discussion of *Anacithara (Anacitharoida) kurodai* Shuto, 1965, from the Pleistocene of Japan, Shuto (1965: 181) mentioned *Pleurotoma imperfecta* de Folin, 1867, from the tropical Pacific, as comparable. Although de Folin's figure (1867: pl. 5, fig. 17) could be interpreted as representing a species of *Anacithara*, the type locality (='île aux Perles', in the Gulf of Panama, according to Kisch 1960) renders this unlikely, as *Anacithara* is only known from the Indo-West Pacific region. Morphologically *imperfecta* is more probably a member of the family Columbellidae, perhaps genus *Nassarina* or *Decipifus*. However, as its types cannot now be located (Kisch 1960: 159), *P. imperfecta* must remain a *nomen dubium*.

I agree with Powell (1966) that the given characteristics of subgenus *Anacitharoida* Shuto, 1965, are of very doubtful taxonomic value, and regard this taxon as a synonym of *Anacithara s.s.*

The radula of *Anacithara* (Fig. 1) is comparable with that of *Haedropleura* Bucquoy, Dautzenberg & Dollfus, 1883, which it resembles in general shell characters. However, *Haedropleura* is distinguishable by the autapomorphic trowel-shaped main limb of the radula (see Kilburn 1988: 293, textfigs 55–56). Another similar genus, in need of comparison with *Anacithara*, is *Horaiclavus* Oyama, 1954, a group not known from southern Africa. The radula of *Horaiclavus* was said by Shuto (1954) to resemble that of *Comitas* Finlay, 1926, and *Inquisitor* Hedley, 1918, ie. presumably blade-like with a slender accessory limb, as in *Anacithara*.

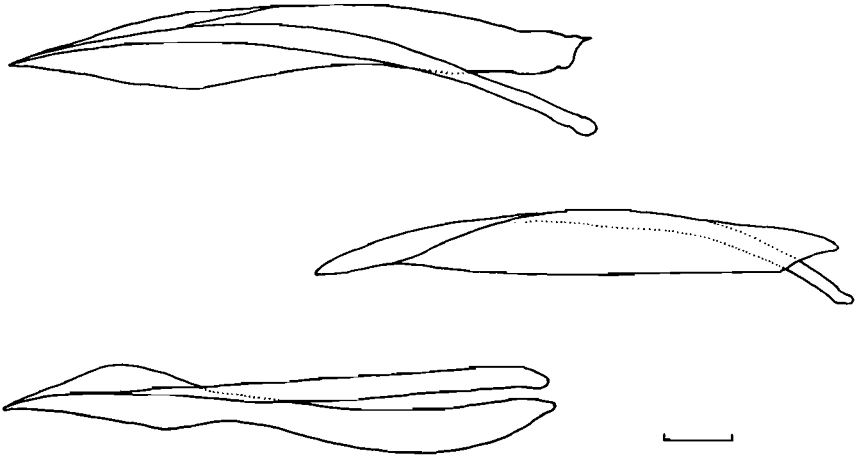


Fig. 1. Different views of radula plate of *Anacithara subrissoina* sp. n. Bar = 10 μm.

It is possible that *Graciliclava* Shuto, 1983, type species (o.d.) *G. mackayensis* Shuto, 1983, will prove to be no more than a subgenus of *Anacithara*. Form, peristome characters and sculpture resemble those of several species of *Anacithara*. A keeled protoconch, such as occurs in *Graciliclava*, is also present in *A.(?) querna* (Melvill, 1910) and to a lesser extent *A. kurodai* Shuto, 1965, type species of *Anacitharoida* Shuto, 1965. To what extent such protoconch characters reflect phylogeny instead of species-level reproductive adaptations remains to be determined for this complex.

It should be noted that *Graciliclava mackayensis* appears to be a subjective junior synonym of *Clavus costatus* Hedley, 1922 (see Appendix).

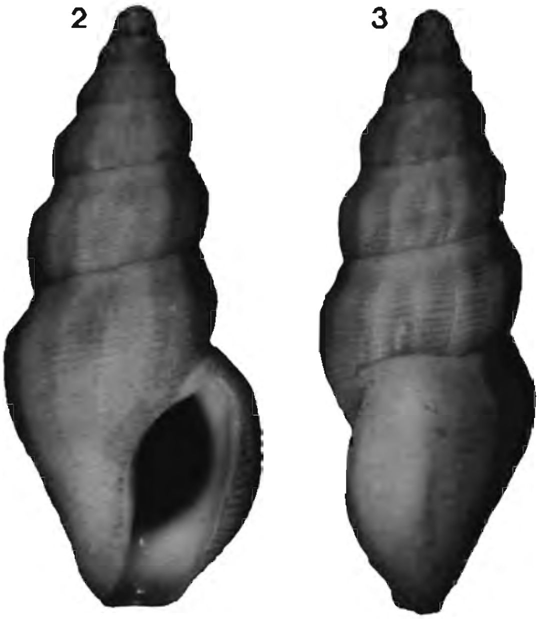
Key to species of southern African *Anacithara*

1 Subsutural region flattened, 1st teleoconch whorl with close-set spiral lirae only .... **simplex**
– Subsutural region concave; 1st teleoconch whorl with fine axial ribs 2

2 Periphery not angular, spiral sculpture of fine lirae, narrower than their intervals; relatively large (5.6–8.4 mm), white .... **subrissoina**
_ Periphery slightly angular; spiral sculpture of shallow, scratch-like grooves; small (3.9–4.4 mm), violaceous-pink to yellow .... **angulicostata**

Anacithara subrissoina sp. n.

Figs 1–5

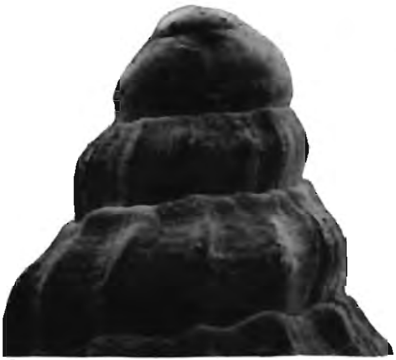


Figs 2–3. *Anacithara subrissoina* sp. n., holotype, NMSA D7644/T990, 7.5 x 3.4 mm.

Diagnosis: Shell claviform, spire moderately blunt, b/l 0.42–0.45, a/l 0.37–0.40; whorls convex, periphery rounded with very slight angle, shoulder slope shallowly concave; suture not distinctly undulating; 1st teleoconch whorl with a brief annectent sculpture of fine, rather irregular, arcuate axial riblets; axial ribs elsewhere rather low, opisthocline, very slightly sinuous, 13 per whorl; spiral lirae narrower than their intervals, 19–24 on penultimate whorl; interstices with microspiral threads, cut into granules by collabral threads. White, rarely with a flesh tinge on back of body whorl, occasionally with faint yellowish subsutural dots and a prelabral spot of this colour. Protoconch narrowly domed, smooth; diameter 0.60–0.63 mm. Maximum length 8.5 mm.

Description: Shell claviform with a moderately short base and fairly blunt, more or less cyrtoconoid spire; b/l 0.42–0.45, a/l 0.37–0.40; teleoconch whorls about 5.5 in number; suture moderately shallow, not noticeably undulating; whorls convex, with slight peripheral angle, median on early whorls, slightly posterior to median on later ones; shoulder slope shallowly concave, subsutural margin adpressed and rising slightly up previous whorl, but scarcely forming a ridge; siphonal canal short, oblique, wide, somewhat linear, its termination rather squarely truncate, scarcely indented, left side of base shallowly concave, fasciole weak but distinct. Aperture rather linearly oblong, almost rhomboidal, columella slightly convex, parietal region straight, but the two intersecting in a strong, even curve; inner lip with a moderately thick, somewhat flattened callus, whose surface is smooth except for microscopic granules, and its outer margin slightly free on columella, forming a shallow false umbilicus; parietal callus thickening into a small pad in posterior angle of aperture, but not forming a tubercle; outer lip preceded by a strong varicoid rib, edge of lip slightly incurved, with a sharp edge, convex in side-view, stromboid notch well-developed; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by low axial ribs, not regularly continuous from whorl to whorl, crossed by thin, low spiral lirae; microscopic collabral striae, rendered finely crenulate by the spiral lirae, present throughout. First teleoconch whorl with a brief initial brephic or annectent sculpture of fine, rather irregular, arcuate riblets, followed by regular ribs and weak spiral threads. Axial ribs opisthocline, very slightly sinuous, suture to suture, evanescing on base at mid-columella level; in t/s subequal in width to their intervals (which are shallowly concave), their crests roundedly-angular, their sides gradually sloping; 12–14 ribs on all teleoconch whorls. Spiral lirae thin and rather flattened, narrower than their interstices (except on early whorls where more close-set); 7–10 on second whorl, 18–24 on penultimate whorl, an occasional interval with a weak intermediary thread; base of body whorl with 18–25 lirae, becoming somewhat more elevated anteriorly than posteriorly, close and rounded on rostrum. Interstices between spiral lirae with microscopic spiral striae cut into granules by stronger collabral threads (Fig. 5).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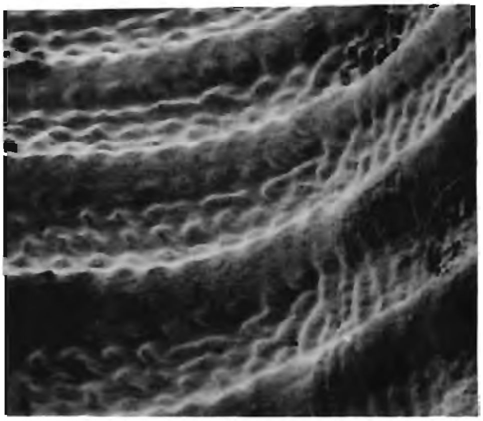
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Figs 4–5. *Anacithara subrissoina* sp. n., SEM of protoconch and microsculpture, paratype 8, NMSA B3644/T997: 4, protoconch, bar = 380 μm; 5, microsculpture on penultimate teleoconch whorl, bar = 86 μm.

Pure white overall, occasionally with a faint flesh-colour tinge; back of body whorl rarely may show faint yellowish spots below suture and a faint mark behind lip varix.

Protoconch narrowly domed, of 2.0 whorls, protoconch I depressed, protoconch II with whorls rounded, smooth; breadth 0.60–0.63 mm, height 0.40–0.68 mm (b/h 1.31–1.50).

Dimensions: 7.5 x 3.4 mm (holotype); largest paratype 8.5 x 3.5 mm, smallest adult 5.6 x 2.5 mm.

Radula: see Fig. 1.

Distribution: Continental shelf of Zululand and Natal (Kosi Bay to Park Rynie), 50–140 m (mostly empty shells).

Type material (all NMSA: NMDP): **Holotype** D7644/T990, off Dog Point, Zululand (27°06.9'S: 32°53.2'E), 100 m, coarse sand, living. ZULULAND: **Paratype 1**, D9019/T991, off Kosi Bay, 75 m, coral rubble, sandstone, empty. **Paratype 2**, E5737/T992, off Boteler Point, 70 m, coral rubble, empty. **Paratype 3**, E5688/T993, off Rocktail Bay, 100 m, sandstone rubble, empty. **Paratype 4**, D6686/T994, off Jesser Point, 140 m, sand, few stones, empty. **Paratype 5**, S9536/T995, off Gipsey Hill, 65-70 m, broken shell, empty. **Paratype 6**, A6097/T996, off Richards Bay, 50 m, fine sand, broken shell, empty, ex CSIR bottom sample. SOUTHERN NATAL: **Paratypes 7–8**, B3644/T997, off Port Shepstone, 70 m, eroded shell and sponge, one broken for radula extraction.

Notes: *Anacithara subrissoina*, like the Australian *A. rissoina* Hedley, 1922, shows a superficial resemblance in general shape and sculpture to certain species of the rissoid genus *Rissoina* d'Orbigny, 1840. *A. rissoina* differs from the present species in possessing only 8 spiral lirae on the penultimate whorl, more evenly rounded whorls and less oblique axial ribs.

Etymology: *sub* (almost) + *Rissoina* (a genus in the Rissoidae), Latin noun.

Anacithara angulicostata sp. n.

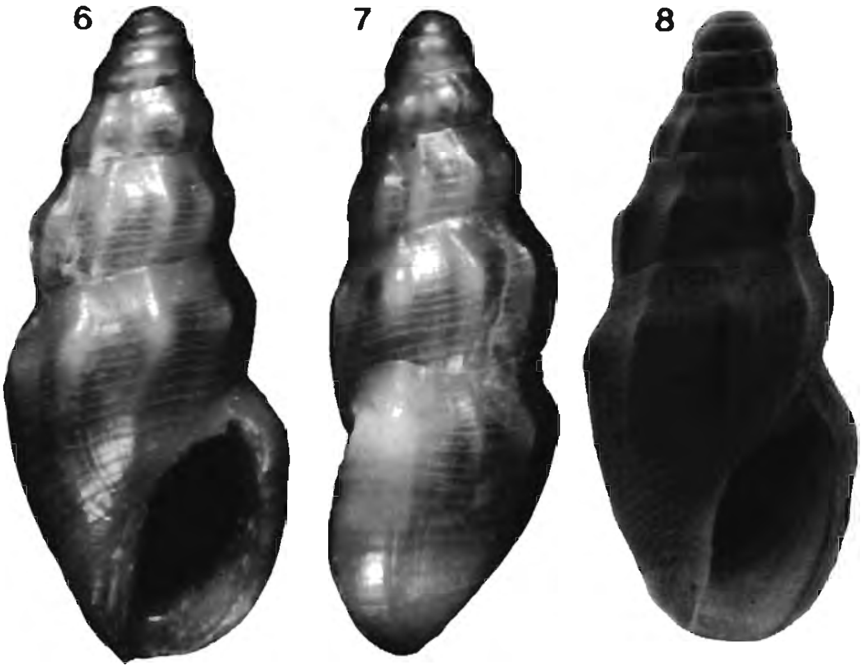
Figs 6–10

Diagnosis: Shell rather pupoid, b/l 0.43–0.48, a/l 0.38–0.39; whorls convex, periphery with a distinct but somewhat rounded angle, shoulder slope slightly concave, suture distinctly undulating; inception of 1st teleoconch whorl with a brief annectent sculpture of fine, rather irregular, arcuate axial riblets, cut by a shallow subsutural groove, but other spiral sculpture indistinct; axial ribs elsewhere low but strong, opisthocline, almost straight, 9–10 per whorl; crossed by shallow, scratch-like spiral grooves, 17–19 on penultimate whorl; interstices between spirals with groups of spiral striae visible under SEM. Glossy, violaceous-pink or pale yellow, occasionally with faint paler median blotches and traces of darker markings. Protoconch narrowly domed, smooth, with a few widely-spaced, arcuate, opisthocline riblets terminally; diameter 0.53–0.60 mm. Maximum length 4.8 mm.

Description: Shell pupoid-claviform with a short, broad base and blunt, slowly expanding, more or less orthoconoid spire; b/l 0.43–0.48, a/l 0.38–0.39; teleoconch whorls about 4.0 in number; suture moderately shallow, distinctly undulating; whorls convex, with a distinct if rounded median angle on later whorls, absent on 1st whorl; shoulder slope concave, subsutural margin adpressed and rising slightly up previous whorl, but scarcely forming a ridge; siphonal canal very short, slightly oblique, wide, somewhat tapering, its termination rather squarely truncate, not indented, left side of base convex, fasciole not differentiated. Aperture rather linearly oblong, columella almost straight, parietal region convex, the two intersecting in a strong, even curve; inner lip with a moderately thick, somewhat flattened callus, whose surface is smooth except for feeble, microscopic granules, and its outer margin slightly free on columella, forming a shallow false umbilicus; parietal callus forming a thick, slightly nodiform pad in posterior angle of aperture; outer lip preceded by a strong varicoid rib, edge of lip slightly incurved, convex in side-view, stromboid notch not developed; lip internally smooth; anal sinus very shallow, rather wide and gently curved.

Surface glossy, sculptured by low but strong axial ribs, crossed by shallow, scratch-like spiral grooves; growth lines rather coarse, intervals between spiral lirae with groups of microscopic spiral striae (visible only under SEM). Inception of 1st teleoconch whorl with a short series of close, irregular axial riblets, incised by a fine, shallow subsutural groove but no other spiral sculpture. Axial ribs (from later part of 1st teleoconch whorl) opisthocline, almost straight, suture to suture, evanescing on base at parietal level; in t/s narrower than their intervals (which are shallowly concave to flattened), their crests angular, their sides gradually sloping; 9–10 ribs on all teleoconch whorls. Spiral grooves closer on shoulder slope than anteriorly, otherwise relatively widely-spaced (particularly on early whorls and on base of body whorl) although a little irregular in width; 5–8 feeble grooves on later part of 1st whorl, 17–19 on penultimate whorl, 8–12 on base, becoming weak on rostrum.

Violaceous-pink to pale yellow, usually uniform, occasionally with faint paler blotches at periphery and traces of darker bands or intercostal blotches.



Figs 6–8. *Anacithara angulicostata* sp. n. **6–7**, Holotype NMSA S9555/T941, 4.8 x 2.3 mm; **8**, paratype 3, NMSA S9965/T940, off Leven Point, Zululand, 50–60 m, 3.8 x 1.7 mm, SEM.

Protoconch narrowly domed, of about 2.5 whorls, protoconch I depressed; protoconch II smooth, except for a few widely-spaced, arcuate, opisthocline riblets on last third whorl; breadth 0.63–0.68 mm, height 0.45–0.53 mm (b/h 1.26–1.40).

Dimensions: 4.8 x 2.3 mm (holotype), 4.0 x 1.7 mm (smallest adult paratype).

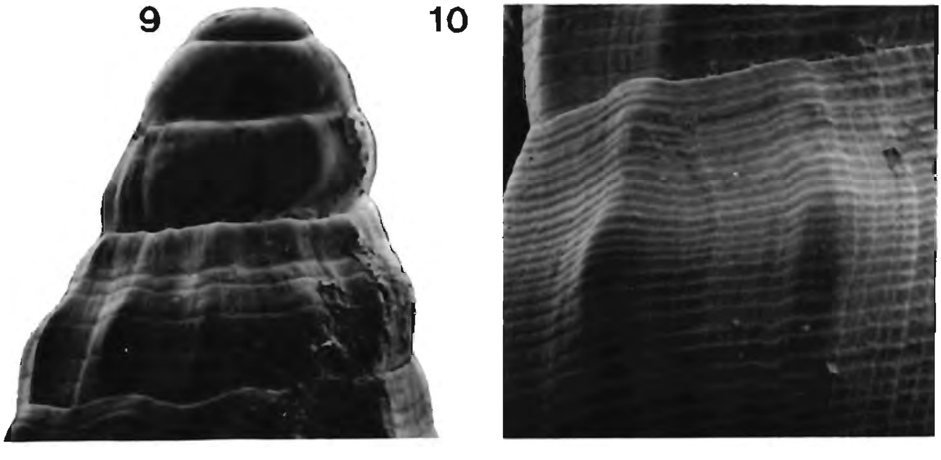
Distribution: Continental shelf of northern Zululand, 50–70 m (empty shells only).

Type material (all NMSA: NMDP): **Holotype** S9555/T941, off Gypsey Hill (27°47.4'S: 32°38.9'E), 65-70 m, broken shell substratum. **Paratype 1**, E1994/T1006, off Dog Point, Zululand, 70 m, sandstone conglomerate; immature but fresh. **Paratype 2**, E5412/T1007, off Hully Point, 60 m, shell rubble. **Paratypes 3–9**, S9965/T940, same data as holotype. **Paratypes 10–11**, E5831/T1008, off Leven Point, 50–60 m, mud; adult but chalky.

Notes: The proportionately large protoconch gives the shell of *Anacithara angulicostata* a somewhat pupoid appearance, and in side view the shell is somewhat gibbose, superficially resembling some members of the Drilliinae in form.

A. angulicostata will probably prove to have an East African distribution. It is somewhat similar to *A. ione* (Melvill & Standen, 1896) from New Caledonia, but that is smaller and narrower, with scarcely any trace of a shoulder on the lip varix, and spiral lirae that are narrower and more elevated, and particularly fine on the base (where in *A. angulicostata* they are relatively broad).

Etymology: *angulatus* (angular) + *costatus* (ribbed), Latin.



Figs 9–10. *Anacithara angulicostata* sp. n., SEM of paratype 3, NMSA S9555/T941, showing protoconch and teleoconch sculpture: **9**, protoconch, scale bar 430 µm; **10**, sculpture on last teleoconch whorl, bar = 430 µm.

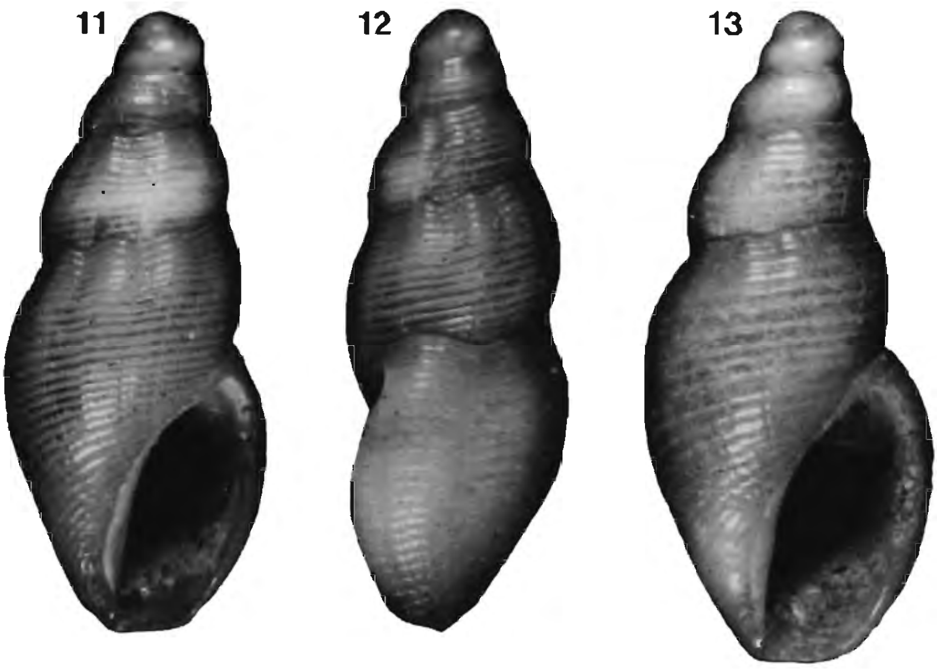
Anacithara simplex (Turton, 1932), **comb. n.**

Figs 11–13

Drillia simplex Turton, 1932: 23, pl. 5, no 180. Type locality Port Alfred.

Diagnosis: Shell rather columbelliform, b/l 0.39–0.46, a/l 0.38–0.48; whorls convex, periphery rounded, shoulder slope moderately flattened, with weakly raised, slightly sinuous axial ribs, crenulating suture, but evanescing anterior to whorl periphery, 11–14 per whorl; spiral threads 10–15 on penultimate whorl, typically fine, uniform in strength, equal to/slightly wider than intervals, which bear very fine axial threads, but may be fairly close-set and coarse. First teleoconch whorl with 6 close-set spiral lirae but with no axial sculpture other than coarse growth lines. White. Protoconch narrowly domed, of 1.6 whorls, smooth except for a few terminal growth lines; diameter 0.80 mm. Maximum length 6.0 mm.

Description: Shell rather columbelliform with a short, wide base and blunt, more or less orthoconoid spire; b/l 0.39–0.46, a/l 0.38–0.48; teleoconch whorls numbering approximately 3.7; suture moderately deep, rendered crenulate by rib terminations; whorls convex, periphery median, not angled; shoulder slope somewhat flattened, subsutural margin slightly adpressed to previous whorl; siphonal canal short, wide, slightly tapering, its termination squarely to obliquely truncate, not indented, left side of base not concave, fasciole not differentiated. Aperture rather rhomboidal, with columella and outer lip almost parallel, columella straight, intersecting parietal region in an even curve; inner lip with a moderately thick, rather restricted callus, whose outer margin is very slightly free on columella; parietal callus forming a feeble pad near posterior angle of aperture; outer lip preceded by a very low varicoid rib, edge of lip with a sharp edge, convex in side-view, stromboid notch slight; lip internally smooth; anal sinus very shallow, rather wide and asymmetrically curved.



Figs 11–13. *Anacithara simplex* (Turton, 1932). **11–12**, NMSA S9478, off Port Grosvenor, Transkei, 60 m, 5.1 x 2.0 mm; **13**, NMSA S4435, off Struis Bay, 35 m, 5.9 x 2.7 mm.

Sculptured by barely elevated axial ribs, forming distinct subsutural undulations, but evanescing below periphery of each whorl, crossed by narrow, low spiral lirae, interstices with microscopic axial threads. First teleoconch whorl with close-set spiral lirae but no axial sculpture other than coarse growth lines. Axial ribs commencing from 2nd whorl, slightly sinuous, protractively curved below suture, lower part straighter and opisthocline; their crests in t/s gently rounded, spacing irregular; 11–14 ribs on penultimate whorl. Spiral lirae: on 1st whorl 6, close-set with shallowly incised intervals, becoming narrower adapically than abapically; typically on later whorls these lirae become thin, crisp but slightly rounded, uniform in strength, equal to/slightly wider than their intervals, penultimate whorl with 12–15 lirae, base of body whorl with 13-15; in Struis Bay example (see below) penultimate whorl bears only 10 fairly close-set lirae (plus 11 flatter lirae on base). Growth lines coarse.

Protoconch narrowly domed, of 1.6 whorls, smooth except for a few coarse terminal growth lines; breadth 0.80 mm, height 0.68 mm (b/h 1.18).

Colour white.

Dimensions: 6.0 x 2.3 mm, 5.7 x 2.0 mm (syntypes); 5.1 x 2.0 mm.

Distribution: Cape Agulhas area to eastern Transkei, beach-drift to 60 m (empty shells only).

Type material: Two syntypes in OXUM; the smaller one was figured by Turton, and is here designated as lectotype.

Locality data: TRANSKEI: off Port Grosvenor, 60 m, sand, broken shell (NM S9478: NMDP). EASTERN CAPE PROVINCE: Port Alfred, beach-drift (NM S9949: J. Hutt). OVERBERG: off Struis Bay (34°47.2'S: 20°08.6'E), 35 m, sand, shells (NM S4435: NMDP).

Notes: Previously, *Anacithara simplex* was known only from beach-worn examples. A fresh shell is now available, but the systematic position of the species remains uncertain, and it may even prove to belong to the genus *Anachis* H. & A. Adams, 1853 (*s. l.*), in the Columbellidae. Although there is also a superficial resemblance to worn shells of *Mitromorpha herilda* (Bartsch, 1915) in the subfamily Borsoniinae (see Kilburn, 1986: 702), that has a differently shaped aperture (with two feeble columella pleats) and well-developed axial ribs.

The above description is drawn mainly from the fresh Transkei specimen (Figs 11–12). It is uncertain whether the somewhat worn Struis Bay specimen (Fig. 13) represents an individual variant, an ecomorph, a western subspecies or even a distinct species. In this shell, shape is slightly more fusiform (b/l 0.46, a/l 0.48), axial sculpture is weaker and spiral lirae are closer set and fewer. Typical (eastern) examples are narrower (b/l 0.39–0.43, a/l 0.38–0.41), axial ribs are stronger (at least subsuturally) and spiral lirae are typically finer, more numerous and more widely-spaced. However, overall appearance is extremely similar, and allowance must be made for geographical variation and the sculpture-modifying effects of wear.

Striatoguraleus gen. n.

Type species: *Striatoguraleus himaeformis* sp. n.

Diagnosis: Shell small (6–10 mm), shape somewhat nassariiform to claviform, with blunt apex and moderately short base, aperture relatively wide; whorls convex, not adpressed below suture, nor forming a bordering ridge. Sculptured by sinuous axial ribs, not continuous from whorl to whorl, sometimes strongly crenulating suture; overridden by low spiral lirae, collabral threads sometimes forming microplicules between spiral lirae. First teleoconch whorl sometimes with an initial (brephic) stage where spiral sculpture is stronger than axial. Siphonal canal with base not indented; outer lip with a distinct varix, anal sinus shallow, asymmetrically U-shaped; stromboid notch faint to distinct; outer lip smooth inside, inner lip smooth except for at most a slight callus pad near posterior angle of aperture. Protoconch narrowly domed, of 1.6–1.8 whorls, covered by very fine spiral striae. Operculum present.

Notes: Resembling some members of *Antiguraleus* but with a spirally striate protoconch. In this character there is some resemblance to the genus *Stilla* Finlay, 1926, from New Zealand; however, the species referred there are minute (<2 mm in length), squatter in shape, without a lip varix, and with a narrower (although equally shallow) anal sinus.

Etymology: *striatus* (finely grooved [protoconch]) + *Guraleus* (a superficially similar mangeliine genus), masculine.

Key to South African species of *Striatoguraleus*

1 Suture crenulated by terminations of axial ribs 2

– Suture not distinctly crenulated; colour varying from white or lilac to orange .... **thetis**

2 Sutural crenulations conspicuous; intervals between spiral lirae with distinct axial plicules, lirae fine to obsolete on siphonal rostrum. .... **himaeformis**

– Sutural crenulations less conspicuous; without distinct interstitial axial plicules; upper part of rostrum often with stronger spiral lirae than elsewhere 3

3 Shape cylindric-fusiform, axial ribs only slightly opisthocline, 13–16 per whorl; surface slightly iridescent; maximum length 4.2 mm .... **electrinus**

– Shape not cylindric-fusiform, axial ribs strongly opisthocline, 10–13 per whorl; surface not iridescent; maximum length 6.6 mm 4

4 Whorls with a distinct but narrow shoulder slightly below suture; spiral lirae coarse (ca 9 on penultimate whorl), particularly strong on upper part of rostrum .... **laticulmen**

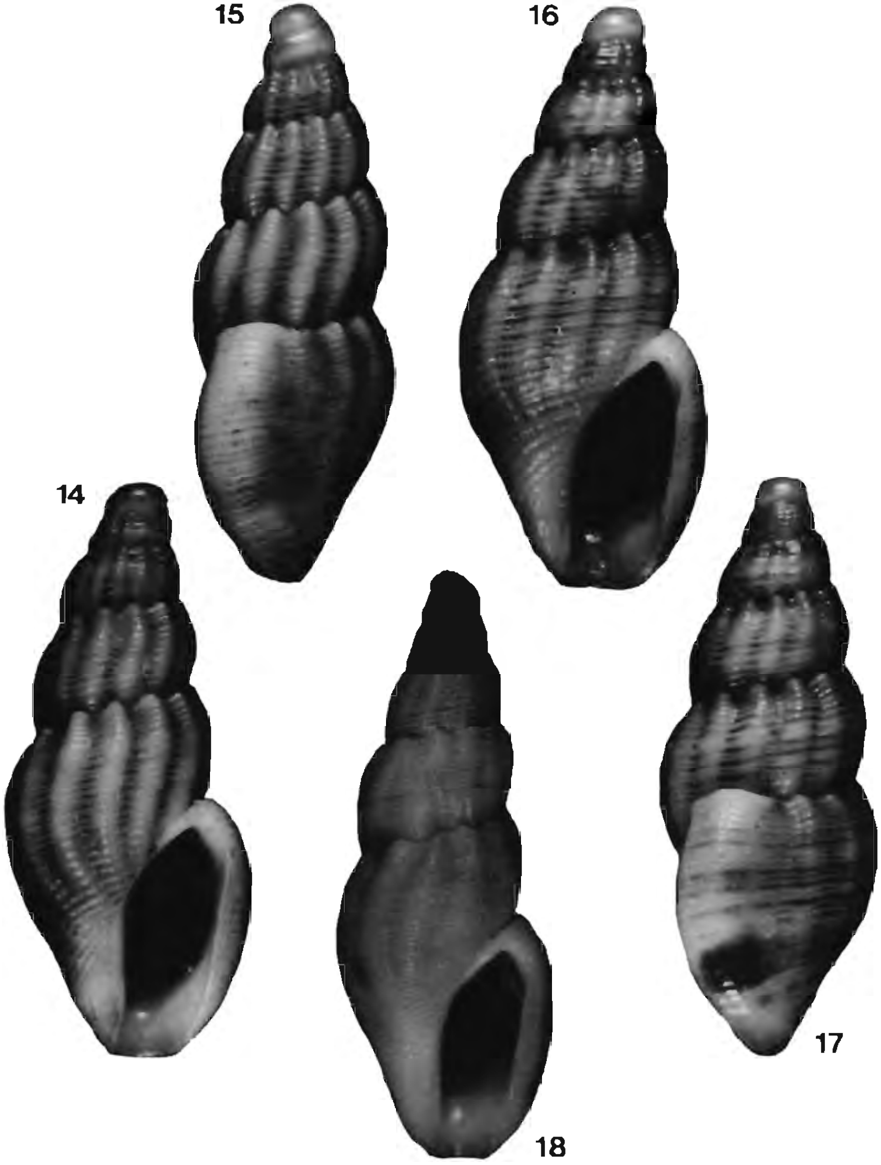
– Whorls not shouldered; spiral lirae fine (ca 15-21 on penultimate whorl), on upper part of rostrum slightly stronger than elsewhere. .... **vellicatus**

Striatoguraleus himaeformis sp. n.

Figs 14–22

Diagnosis: Shell rather nassariiform, b/l 0.40–0.49, a/l 0.37–0.44, base of outer lip not contracted; suture rendered strongly crenate by projecting ends of ribs; axial ribs low, rounded in cross-section, sinuous, 12–14 per whorl; spiral threads slightly raised, variable in width, becoming weaker on rostrum, 12–20 on penultimate whorl; intervals between spiral lirae with fine collabral plicules; 1st half teleoconch whorl with a brephic sculpture of distinct spiral grooves and fine, irregular axial riblets.

White to pale buff, body whorl with a faint median brown zone, terminating in a distinct bar, occasionally with faint brownish spiral lines. Protoconch with about 27 declivous, microscopic spiral striae, crossed by even finer axial plicules, termination with a few relatively coarse axial plicules; diameter 0.68-0.73 mm. Maximum length 6.2 mm.



Figs 14–18. *Striatoguraleus himaeformis* sp. n. **14–15**, Holotype, NMSA C7301/T951, 5.7 x 2.4 mm; **16–17**, paratype 4, NMSA C7788/T961, 5.0 x 2.1 mm. **18**, *S. ?himaeformis*, NMSA C7288, off Whale Rock, 20–26 m, 6.7 x 2.4 mm.

Description: Shell rather nassariiform with a short base and fairly blunt, more or less orthoconoid spire; b/l 0.40–0.49, a/l 0.37–0.44; teleoconch whorls numbering up to about 4.3; suture moderately deep, rendered strongly crenate by rib terminations; whorls convex, periphery above median, not angular; shoulder slope not concave, nor is subsutural margin distinctly adpressed to previous whorl; siphonal canal short, wide, tapering, its termination rather squarely truncate, not indented, left side of base shallowly concave, fasciole weakly differentiated. Aperture rather linearly oblong, columella straight, as is parietal region, the two intersecting in an even curve; inner lip with a moderately thick, somewhat flattened callus, whose surface is feebly and microscopically rugulose, and its outer margin slightly free on columella, sometimes forming a shallow false umbilicus; parietal callus forming a small pad in posterior angle of aperture, but not forming a tubercle; outer lip preceded by a moderately strong varicoid rib, edge of lip slightly incurved, with a sharp edge, convex in side-view, stromboid notch weak; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by low, sinuous axial ribs, not regularly continuous from whorl to whorl, crossed by low spiral lirae, with microscopic collabral striae visible mainly in spiral interstices. First half of teleoconch whorl with fine, irregular, arcuate axial riblets, crossed by 5 shallow spiral grooves. Axial ribs (from latter part of 1st whorl on) opisthocline, sinuous (protractively curved below suture), projecting at suture as rounded crenations, suture to suture, evanescing on body whorl below parietal level; in t/s broader than their intervals (which are shallowly concave), their crests rounded, their sides gradually sloping; 12–14 ribs on all teleoconch whorls. Spiral lirae rather flattened throughout, usually narrower than their intervals, sometimes wider, an occasional lira narrower than the others; 1st whorl with 5–7 low, close threads, penultimate whorl with 12–20, base of body whorl with about 13–18 lirae, becoming rather weak on rostrum. Interstices (Fig. 20) with fine collabral threads that deeply pliculate each interval and minutely crenulate edges of lirae.

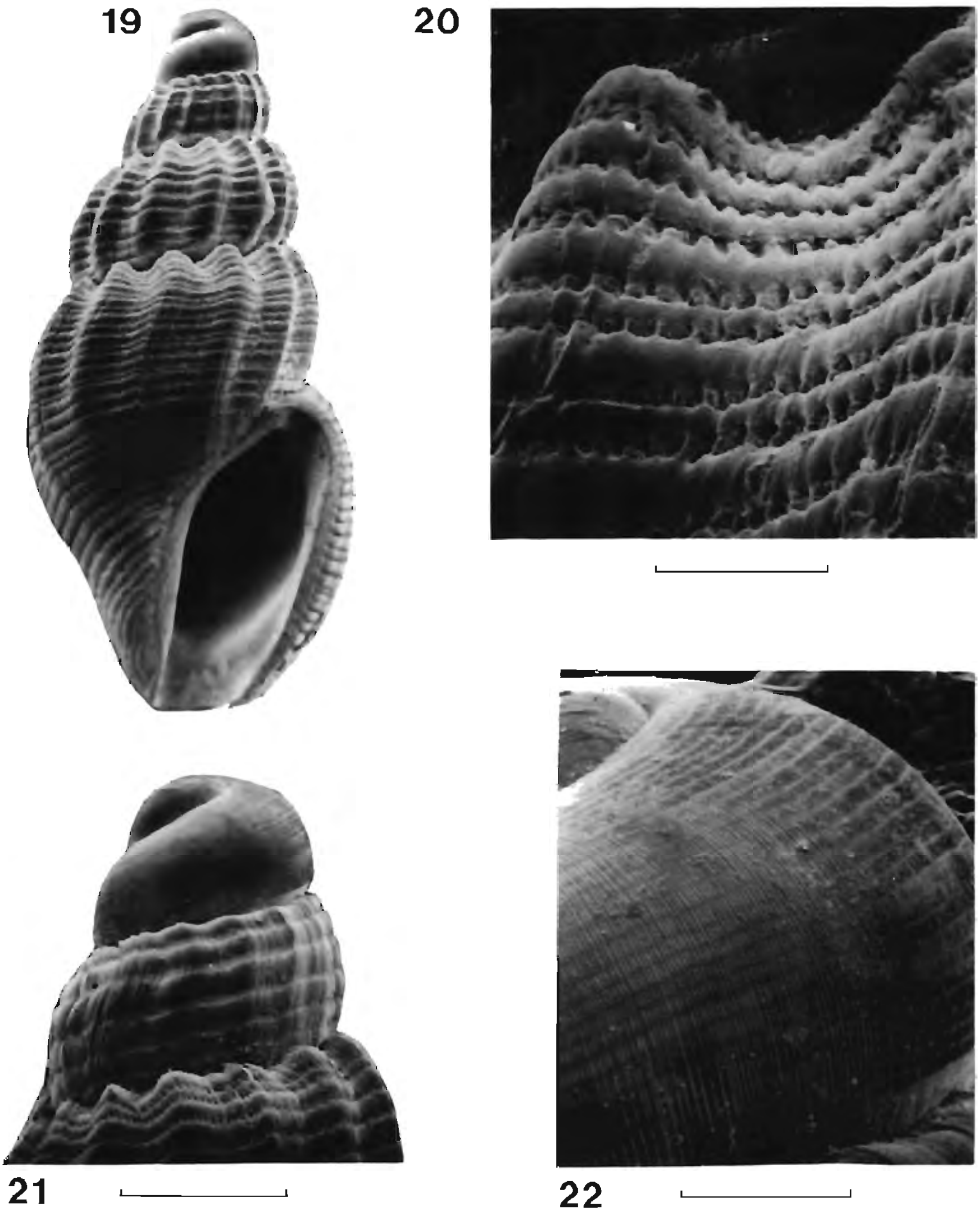
Protoconch somewhat papilliform, of about 1.6 whorls, protoconch I depressed and apically tilted; protoconch II with fairly deep suture, termination shallowly sigmoid; with about 27 declivous, microscopic spiral striae, crossed by even finer axial plicules (Fig. 22), termination with a few relatively coarse axial plicules; breadth 0.68–0.73 mm, height 0.50–0.58 mm (b/h 1.22–1.58).

White to pale buff, body whorl with a faint indication of a narrow brownish band at level of parietal pad, terminating behind lip varix in an orange-brown bar; later whorls sometimes with thin spiral lines of pale brown, spiral lirae often tinged with brown where they cross back of lip varix.

Dimensions: 5.7 x 2.4 mm (holotype); 6.2 x 2.5 mm (largest paratype), 4.6 x 2.1 mm (smallest adult paratype).

Distribution: Continental shelf from southern Natal to eastern Cape Province, mainly in 75–110 m.

Type material (all NMSA: NMDP, unless otherwise stated): **Holotype** C7301/T951, off Port Grosvenor, Transkei (31°24.5'S: 29°57.2'E), 80 m, lithothamnion rubble, living. NATAL: **Paratypes 1-2**, E5474/T954, S. E. of Green Point (30°15.0'S: 30°54.3'E), 100 m, fine sand and rubble. **Paratype 3**, S9862/T923, off Park Rynie,



Figs 19–22. *Striatoguraleus himaeformis* sp. n., SEM of paratypes 7–8, NMSA C7427/T957: **19**, paratype 7, immature, 4.2 x 1.8 mm; **20**, microsculpture on subsutural region of last teleoconch whorl, bar = 120 µm; **21**, protoconch and 1st teleoconch whorl of paratype 8, bar = 380 µm; **22**, microsculpture of previous, bar = 100 µm.

35-45 m, offshore reef, dived G. Smith. TRANSKEI: **Paratype 4**, C7788/T961, off Mtamvuna River, 110 m, pebbles; **paratypes 5–6**, C7559/T959, do, 137 m, rocks, sponges, immature; **paratypes 7–8**, C7427/T957, do, 111 m, sponge; **paratype 9**, C7359/T953, do, 80 m, rocks. **Paratype 10**, B4782/T964, Mzamba, beach-drift, R. K., R. Fregona). **Paratypes 11–12**, C7392/T960, off Port Grosvenor, 82 m, worn calcareous nodules. **Paratype 13**, C7567/T952, off Ubombo, 80 m, mixed sand, mud, shell debris. **Paratypes 14–16**, C7246/T962, off Whale Rock, 90 m, sponge rubble, small pebbles. **Paratypes 17–18**, C7637/T955, off Mbashe River, 75 m, calcareous nodules. **Paratype 19**, C7584/T958, off Sandy Point, 94 m, gorgonians, sponges. **Paratype 20**, C7618/T956, off Qolora River, 80 m, coarse sand. EASTERN CAPE: **Paratype 21**, S6204/T963, off East London, 90 m, coarse sand, sponges, gorgonians, an empty shell.

Notes: This warm-temperate species is relatively abundant off Transkei, although only the holotype appears to have been live-taken. It is readily recognisable by its prominent subsutural crenations. In these it is rather similar to the tropical Hawaiian *Anacithara perfecta* Kay, 1979; the sutural crenations in that species are even stronger, total size is smaller (3.3 mm), shape more pupoid, axial ribs number only 10 per whorl, and the protoconch was described as smooth. There is also a slight resemblance to the worn and indeterminate juvenile described by Turton (1932) as *Mangilia helena*, but that has ribs that are nearly orthocline and do not crenulate the suture to any marked extent.

Practically all known examples of *S. himaeformis* were dredged within a relatively narrow bathymetric range of 75–100 m. Exceptions occurred in southern Natal (35-45 m at Park Rynie) and near the Natal/Transkei border, where most examples were taken in deeper water (111–137 m). Yet the latter area also yielded the only known littoral example of the species (paratype 10)! Although local currents not infrequently bring offshore material onto the beach at this locality, this record probably indicates its living occurrence in shallow water there.

A single shell (Fig. 18) from 20–26 m off Whale Rock (NMSA C7238, sand and gorgonians) may represent either a different species or merely a local morph of *S. himaeformis*, but much more material is required. It differs from *himaeformis* in its very low axial ribs, which are visible mainly by the conspicuous, strongly rounded sutural crenations that they form, and in its more numerous spiral lirae (about 25 lirae on penultimate whorl, about 20 on base of body whorl, becoming very weak on rostrum); perhaps significantly, the protoconch shows only faint spiral striae, and is also slightly more depressed than in typical *himaeformis* (b/h 1.13). It is also more slender than the average example of the latter. It shows a superficial resemblance to *Anacithara minutistriata* (E. A. Smith, 1882) (see Appendix) but in that the ribs extend well onto the base, but barely form sutural crenations, spiral sculpture is fine and scratch-like, and the protoconch appears to be smooth.

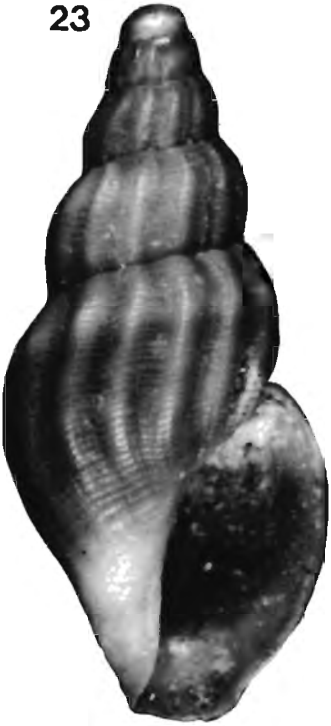
Etymology: *Hima* (subgenus of *Nassarius* in the family Nassariidae) + *formis* (with form of), Latin adjective.

Striatoguraleus vellicatus sp. n.

Figs 23–26

Diagnosis: Shell somewhat nassariiform, b/l 0.44–0.48, a/l 0.44, outer lip contracted basally; base of siphonal canal rather squarely truncate; suture weakly crenated by

23



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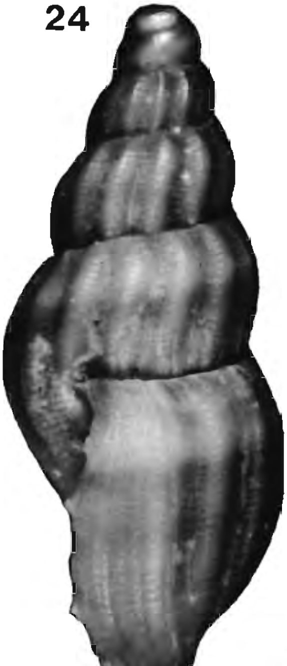

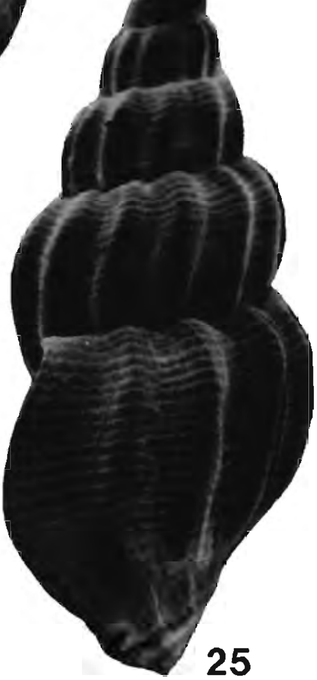

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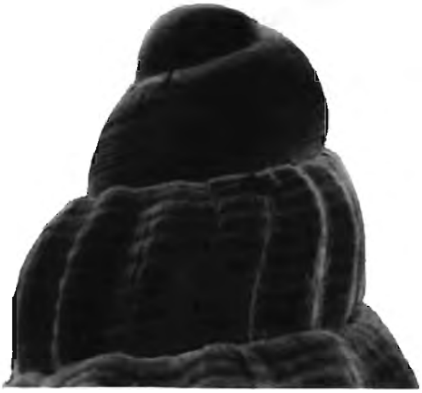

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Figs 23–26. *Striatoguraleus vellicatus* sp. n. **23–24**, Holotype, NMSA S9497/T945, 5.9 x 2.8 mm; **25**, paratype 1, NMSA C7426/T943, 5.3 x 2.6 mm; **26**, SEM of protoconch and 1st teleoconch whorl of paratype 1, NMSA C7426/T943: bar = 430 μm.

axial ribs, which are moderately raised, roundedly angular in cross-section, arcuate on spire whorls, 11–12 per whorl; spiral threads 15–21 on penultimate whorl, uniform in width, wider than intervals, scarcely raised, except on upper part of rostrum where there are 5–6 stronger ridges; collabral threads weak, not rendering intervals pliculate. 1st teleoconch whorl without brephic sculpture. Brownish-orange, subsutural region or entire body whorl sometimes white. Protoconch with microscopic spiral striae, last quarter whorl with or without fine, orthocline axial riblets; diameter 0.73–0.75 mm. Maximum length 6.6 mm.

Description: Shell somewhat nassariiform with a moderately short but narrow base and fairly blunt, more or less orthoconoid spire, base of outer lip strongly constricted; b/l 0.44–0.48, a/l 0.44; teleoconch whorls numbering up to about 4.0; suture rather deep, rendered weakly crenate by rib terminations; whorls convex, periphery above middle, not angular; shoulder slope not concave, nor is subsutural margin distinctly adpressed to previous whorl; siphonal canal moderately short, wide, its termination rather squarely truncate, not indented, left side of base concave, fasciole weakly differentiated. Aperture rather linearly pyriform, columella straight, as is parietal region, the two intersecting in an even curve; inner lip with a moderately thick, somewhat flattened callus, whose surface appears smooth; outer lip preceded by a varicoid rib, edge of lip strongly convex in side-view, stromboid notch distinct and wide; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by arcuate axial ribs (sinuous on last whorl), not regularly continuous from whorl to whorl, crossed by barely raised spiral lirae (visible mainly from their shallow intervals), except on rostrum where they form distinct ridges; surface crossed by inconspicuous collabral striae, which do not pliculate interstices. Axial ribs opisthocline, slightly protractively curved below suture, recurved on base of body whorl, barely projecting above suture, suture to suture, ending at upper part of rostrum or parietal-columella termination; in t/s slightly broader than their intervals, their crests roundedly angular, their sides steeply and asymmetrically sloping; 11–12 ribs on all teleoconch whorls. Spiral lirae flattened, uniform in width, wider than their intervals; 1st whorl with 9 close threads, penultimate whorl with 15–21, base of body whorl with 5 equally weak lirae, plus 5–6 distinctly raised ridges with sharply incised intervals on upper part of rostrum, becoming feeble anteriorly.

Protoconch narrowly domed, of about 1.8 whorls; protoconch I depressed and apically tilted; protoconch II with fairly deep suture, termination shallowly sigmoid; covered with extremely fine spiral striae (Fig. 26), last quarter whorl with or without a series of fine, straight axial plicules; breadth 0.73–0.75 mm, height 0.60–0.63 mm (b/h 1.16–1.22).

Colour uniform orange-brown, apex tinged with deeper orange, or with a white subsutural zone, or white with an orange-brown spire.

Dimensions: 5.9 x 2.8 mm (holotype); 6.6 x 3.0 mm (largest paratype).

Distribution: Continental shelf of Transkei, mainly on sponge bottoms in 50–140 m (empty shells).

Type material (all NMSA: NMDP): **Holotype** S9497/T945, off Kei River mouth (32°47.6'S: 28°31.8'E), 85 m, sponge rubble, coarse sand. **Paratype 1**, C7426/T943, off Mtamvuna River mouth (31°08.9'S, 30°15.7'E), 111 m, sponge bottom. **Paratype 2**, S9484/T948, same data. **Paratype 3**, C7296/T942, off Port Grosvenor, 80 m, calcareous nodules, lithothamnion sheets. **Paratype 4**, S9990/T950, off Port Grosvenor, 100–110 m, pebbles, some sand. **Paratype 5**, C1726/T949, off Mbotyi, 50 m, mixed sand, mud, abundant worm tubes. **Paratypes 6–7**, C7247/T946, off Whale Rock, 90 m, sponge rubble, pebbles; juveniles. **Paratype 8**, C7583/T944, off Sandy Point, 94 m, gorgonians, sponges. **Paratype 9**, S9492/T947, same data, juvenile.

Notes: Although no unworn or fully adult examples are available, the characters of this species are distinctive enough to justify its description. Apart from the characters given in the above key, *Striatoguraleus vellicatus* differs from *S. himaeformis* in lacking a brephic sculptural stage, axial and spiral sculpture being present from the termination of the protoconch onwards; in *S. himaeformis* there is a short brephic stage of distinct spiral grooves (or closely-set spiral lirae) and rather inconspicuous axial riblets.

Variation needs investigation: a specimen from the same bottom sample as the holotype has finer and more numerous spiral lirae on the rostrum.

Etymology: *vellicatus* = pinched (figurative), Latin adjective, referring to the somewhat constricted base.

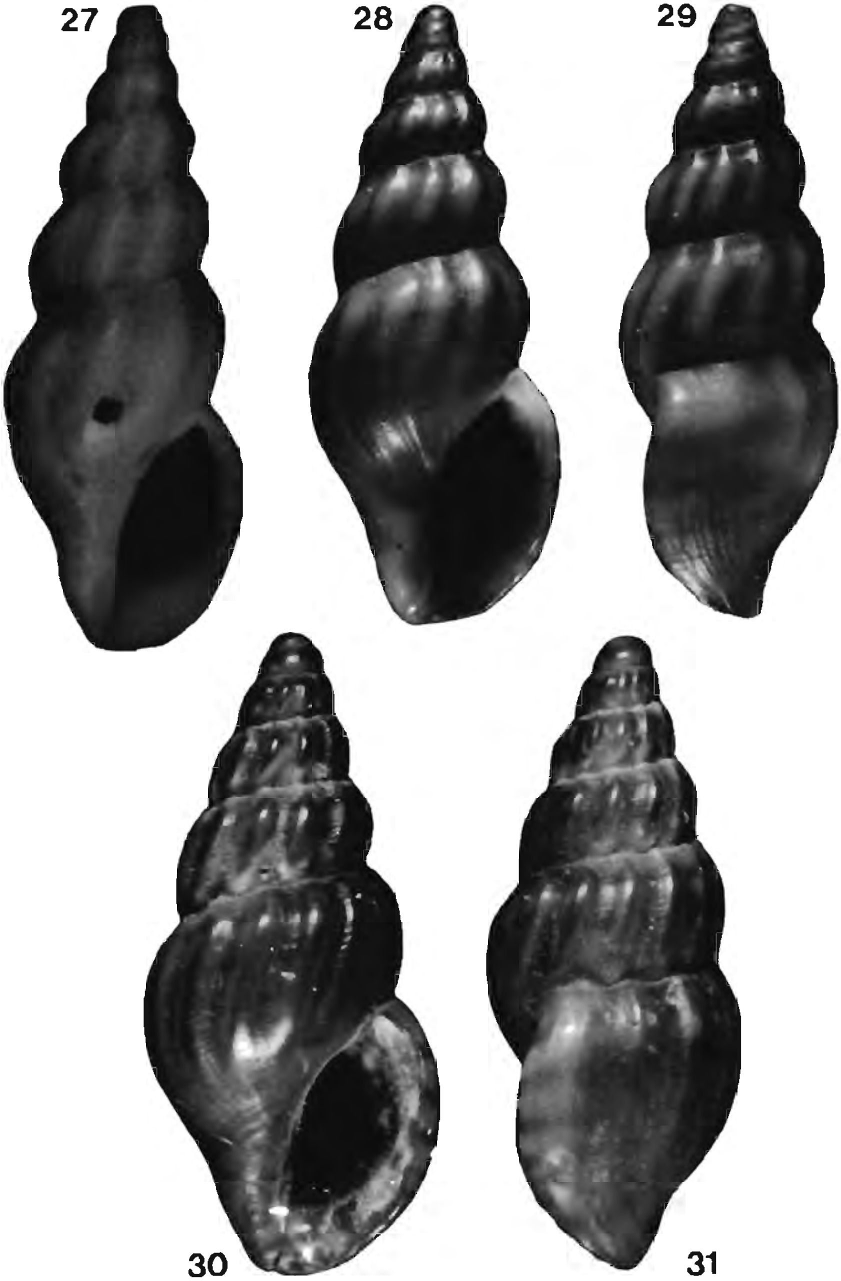
Striatoguraleus thetis (E. A. Smith, 1904), **comb. n.**

Figs 27–34

Drillia thetis Smith, 1904: 26, pl. 2, fig. 1; Bartsch, 1915: 22; Turton, 1932: 23, pl. 5, no 175; Barnard, 1958: 125, textfig. 11 d (protoconch). Type locality: Port Alfred.
Drillia pretiosa Turton, 1932: 21, pl. 4, no 164. Type locality: Port Alfred.
?*Drillia albanyana* Turton, 1932: 22, pl. 4, no 166. Type locality: Port Alfred.

Diagnosis: Shell claviform, b/l 0.38–0.44, a/l 0.38–0.42, base of body whorl not markedly constricted; suture sometimes weakly crenate by ends of ribs; axial ribs moderately raised, roundedly angular in cross-section, arcuate to slightly sigmoid, 11–13 per whorl; spiral lirae uniform in strength, equal to / slightly wider than intervals, becoming slightly stronger on rostrum, 20–33 on penultimate whorl; collabral striae fine; at about 300 x magnification spiral threads are visible overall, weaker and somewhat puncticulate on main spiral lirae. Brownish-orange, yellowish-brown, lilac or white, sometimes with a pale band at periphery or a brownish one below suture. Protoconch with about 19 microscopic spiral striae; diameter 0.70–0.73 mm. Maximum length 9.5 mm.

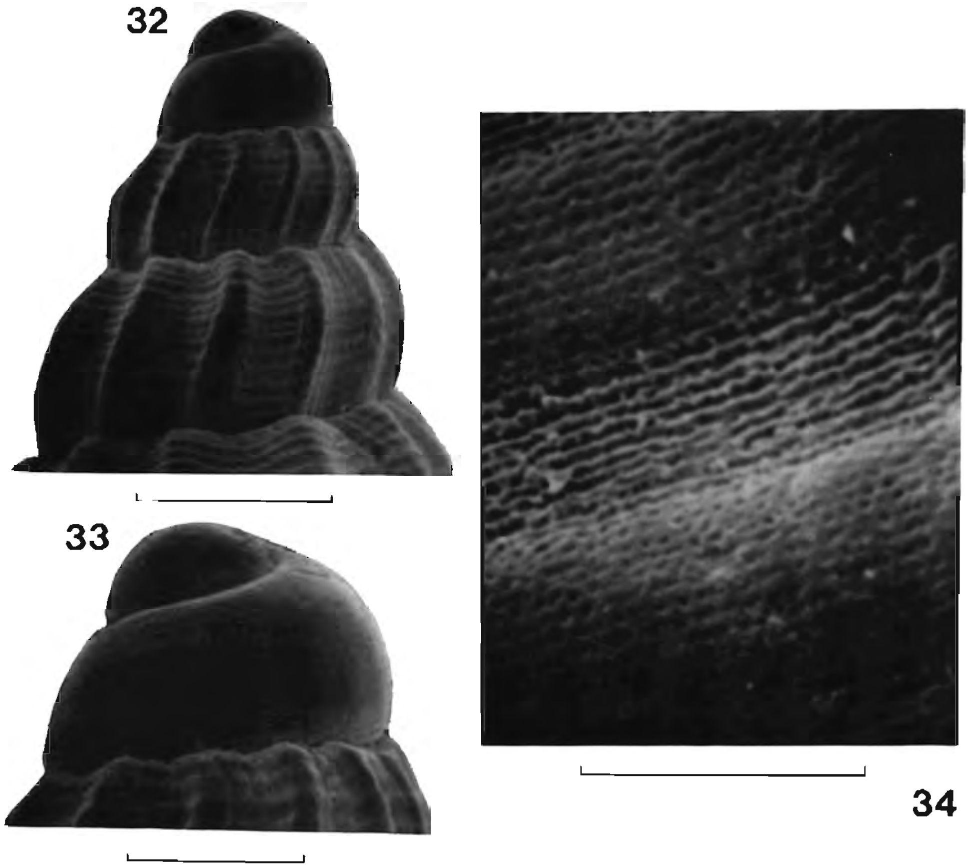
Description: Shell claviform with a moderately short, rapidly tapering base and slightly blunt, more or less orthoconoid spire; b/l 0.38–0.44, a/l 0.38–0.42; teleoconch whorls numbering up to about 5; suture fairly shallow, sometimes rendered weakly crenate by rib terminations; whorls convex, periphery at or slightly above median, not angular; shoulder slope convex to slightly flattened; siphonal canal short, wide, slightly tapering, its termination rather oblique, not indented, left side of base concave, fasciole weakly differentiated. Aperture rather linearly oblong, columella straight, as is parietal region, the two intersecting in an even curve; inner lip with a moderately thick, smooth, somewhat flattened callus, whose outer margin



Figs 27–31. *Striatoguraleus thetis* (Smith, 1904). **27**, Lectotype of *Drillia thetis*, BMNH 1903.12.19.756, 10.0 x 4.0 mm; **28–29**, Port Alfred, NMSA 2984, 9.0 x 3.5 mm; **30–31**, Mbotyi, Transkei, NMSA C8398, 6.8 x 3.2 mm.

is slightly free on columella, sometimes forming a feeble false umbilicus; parietal callus not forming a pad posteriorly; outer lip preceded by a moderately strong but low varicoid rib, edge of lip slightly incurved, with a sharp edge, convex in side-view, stromboid notch [apparently] weak; lip internally smooth; anal sinus shallow, rather wide and symmetrically curved.

Sculptured by opisthocline, arcuate to slightly sigmoid axial ribs, not regularly continuous from whorl to whorl, crossed by low, uniform spiral lirae, with microscopic collabral striae and spiral threads. First half of teleoconch whorl with rather weak, irregular axial ribs, crossed by weak spiral threads. Axial ribs protractively curved below suture, where they may become weak, but usually project slightly, suture to suture, evanescing on body whorl below parietal level; in t/s equal to or slightly broader than their intervals, their crests roundedly angular; 11–13 ribs on all teleoconch whorls. Spiral lirae rather flattened throughout, equal to or wider than their intervals, finest below suture; 1st whorl with 10–15 low, close threads,



Figs 32–34. *Striatoguraleus thetis* (Smith, 1904), SEM of NMSA C8398, protoconch and microsculpture: **32**, protoconch and 1st two teleoconch whorls, bar = 600 µm; **33**, protoconch, bar = 270 µm; **34**, microsculpture of teleoconch, bar = 30 µm.

penultimate whorl with 20–33, base of body whorl with about 21–28 lirae, becoming weak on rostrum. At about 300 x magnification, crests of spiral lirae are seen to be spirally striate, with puncticulate intervals (Fig. 34), and their intervals bear very fine, slightly wavy spiral threads.

Protoconch somewhat papilliform, of about 1.7 whorls, protoconch I depressed; covered with about 19 extremely fine spiral striae; breadth 0.70–0.73 mm, height 0.55–0.63 mm (b/h 1.11–1.33).

Colour usually uniform brownish-orange, sometimes with a pale line at periphery or violaceous-tinged apex, occasionally light yellowish-brown, white or pale lilac, occasionally tinged with brown below suture and at periphery of last whorl.

Dimensions: 9.5 x 3.8 mm, 6.6 x 2.9 mm (large and small adults).

Distribution: Jeffreys Bay to Mzamba (eastern border of Transkei).

Locality data: EASTERN CAPE PROVINCE: Jeffreys Bay (NMSA 2984: R. K.); Port Alfred (NMSA B6819, B6353, 2984, 5937, D2182, B3225: R. K., J. Hutt, H. Becker, E. K. Jordan); East London (NMSA A2381: C. M. Connolly). TRANSKEI: Xora (NMSA 5938: R. K.); off Whale Rock, 20–26 m, sand and gorgonians (NMSA C7234: NMDP); Mbotyi (NMSA C8398: R. K., D. Herbert); Mzamba (NMSA 5939, B4683: R. K.).

Type material: *D. thetis*: 6 worn syntypes BMNH 1903.12.19.756–763, one marked with a red dot is here designated lectotype (Fig. 27). *D. pretiosa*: syntypes in OXUM. *D. albanyana*: holotype in OXUM.

Notes: *Striatoguraleus thetis* is not uncommon in beach-drift in the eastern Cape Province and western Transkei, although rarely washing up in fresh condition. Only a single, damaged example was dredged by NMDP, but this, together with some of the fresher beached specimens, reveals the protoconch to be spirally striate, not 'smooth' as stated by Barnard.

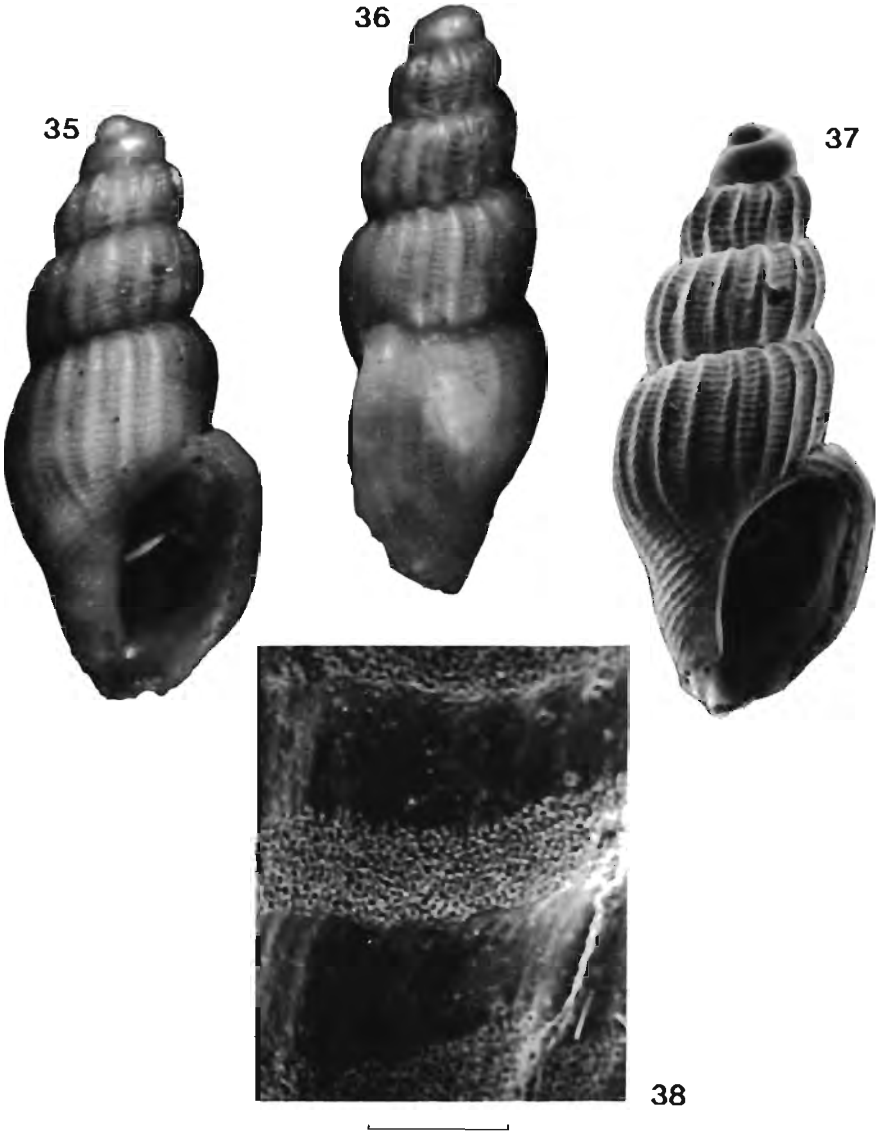
This species varies greatly, not only (as noted by Turton) in coloration and colour pattern, but also in shell breadth. I strongly suspect that Turton's *Drillia albanyana* represents a stunted adult, but the holotype is too worn for a definite conclusion to be drawn.

Striatoguraleus electrinus sp. n.

Figs 35–40

Diagnosis: Shell cylindric-fusiform, b/l 0.43–0.46, a/l 0.41–0.46, outer lip not contracted basally; base of siphonal canal slightly obliquely truncate; suture crenated by axial ribs, which are moderately low, compressed and roundedly angular in cross-section, opisthocline and slightly sigmoid, 12–16 per whorl; spiral threads 12–17 on penultimate whorl, uniform in width, equal to intervals, scarcely raised, except on upper part of rostrum where stronger; collabral threads mostly fine, rendering intervals slightly pliculate, under SEM, interstices resemble pumice. 1st teleoconch whorl without brephic sculpture. Pale amber, slightly iridescent. Protoconch with microscopic spiral threads, evanescing on last half-whorl, and even finer axial plicules; diameter 0.60–0.63 mm. Maximum length 4.2 mm.

Description: Shell cylindric-fusiform with a high, blunt, slightly cyrtoconoid spire and moderately short, tapering base; b/l 0.43–0.46, a/l 0.41–0.46; teleoconch whorls numbering up to about 3.7; suture fairly shallow, crenulated by rib terminations; whorls moderately convex, periphery above middle, shoulder slope convex; siphonal canal moderately short, wide, oblique, its termination slightly obliquely truncate, not indented, left side of base moderately concave, fasciole weakly differentiated. Aperture somewhat bluntly lanceolate, posterior end obtusely rounded, outer lip strongly arched posteriorly, columella somewhat concave posteriorly, projecting



Figs 35–38. *Striatoguraleus electrinus* sp. n. **35–36**, Holotype, NMSA S7585/T982, 4.1 x 2.0 mm; **37**, SEM of same; **38**, microsculpture of teleoconch, bar = 30 µm.

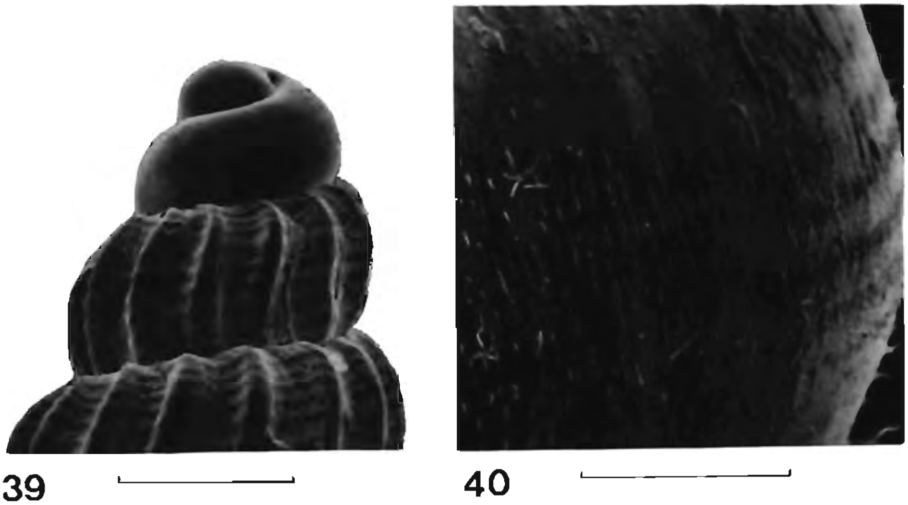
slightly anteriorly, obliquely truncate at base, parietal region straight, the two intersecting in a very gentle curve; inner lip with a moderately thick, smooth, somewhat flattened callus, its outer edge slightly free in adult; parietal callus not forming a pad posteriorly; outer lip preceded by a low, fairly compressed varicoid rib, edge of lip moderately convex in side-view, with a slight stromboid notch; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by narrow, moderately low, slightly sigmoid axial ribs, crossed by thinner, barely elevated, but distinct spiral lirae, which are stronger on base of body whorl; growth-lines fine, rendering intervals somewhat pliculate, but becoming coarse behind lip. Axial ribs slightly opisthocline, almost straight, suture to suture, evanescing below parietal level and behind lip on body whorl, in t/s compressed, roundedly angular, equal to / narrower than intervals; 13 on 1st teleoconch whorl, 13–16 on penultimate whorl, becoming feeble on later part of body whorl. Spiral lirae uniform in strength, equal to their intervals, about 7 on 1st teleoconch whorl, 12–17 on penultimate whorl, and about 13 on base of body whorl. Under SEM spiral lirae are smooth, but their interstices are minutely pitted, resembling pumice.

Protoconch bluntly domed, of about 1.5 whorls; protoconch I depressed; lower part of protoconch II with shallow spiral grooves, cut into punctae by axial threads, evanescing on last half whorl, which is smooth, termination strongly opisthocline; breadth 0.60–0.63 mm, height 0.43–0.45 mm (b/h 1.40).

Uniform pale amber-yellow, surface slightly iridescent.

Dimensions: 3.7 x 1.7 mm (holotype); 4.2 x 1.8 mm (larger paratype).



Figs 39–40. *Striatoguraleus electrinus* sp. n. **39**, SEM of protoconch and 1st teleoconch whorl, bar = 380 µm; **40**, microsculpture of protoconch, bar = 60 µm.

Distribution: Continental shelf of Transkei, empty shells in 94–140 m, on a sponge bottom.

Type material: **Holotype** NMSA C7585/T982, off Sandy Point (32°40.3'S: 28°40.4'E), 94 m, gorgonians, sponges, NMDP. **Paratypes 1–2**, NMSA C7520/T983, off Mtamvuna River, 120–140 m, sponge rubble, NMDP.

Notes: Although only three examples are presently known, *Striatoguraleus electrinus* is abundantly distinct from other members of the genus in shape and in its minute size. It is superficially similar to *Anacithara(?) lita* (Melvill & Standen, 1896) of New Caledonia, but sculpture in that species is coarser, with both axial ribs and spiral lirae fewer and stronger; details of protoconch sculpture in *lita* are presently unknown.

Etymology: *electrinus* = made of amber, Latin.

Striatoguraleus laticulmen sp. n.

Figs 41–48

Diagnosis: Shell rather columbelliform, b/l 0.45–0.50, a/l 0.38–0.43; whorls convex, with rounded shoulder posteriorly, crenulated by strong, more or less sinuous axial ribs, reaching fasciole on base, 10–11 per whorl; spiral threads barely elevated, wider than their intervals, ca 9 on penultimate whorl, crossed by microscopic collabral striae; interstices of spiral threads with pumice-like microscopically pitted surface (under SEM); 1st teleoconch whorl with axial ribs crossed by 6 low, close-set spiral lirae. Pale orange-buff. Protoconch narrowly domed, of 1.4 whorls, with microscopically granular spiral threads (under SEM); breadth 0.55–0.63 mm. Maximum length 4.4 mm.

Description: Shell somewhat nassariiform with a short, rather rapidly tapering base and blunt, more or less orthoconoid spire; b/l 0.45–0.50, a/l 0.38–0.43; teleoconch whorls numbering up to about 4.0; suture moderately deep, usually rendered distinctly crenate by rib terminations; whorls strongly convex, peripheral posterior to median, forming a well rounded shoulder; shoulder slope convex, subsutural margin not adpressed to previous whorl; siphonal canal short, wide, expanding terminally, its termination truncate, not indented, left side of base with a concave 'neck', fasciole fairly strong and tumid. Aperture pyriform, columella straight or slightly convex, parietal region concave, the two intersecting in a strong, even curve; inner lip with a moderately thick, somewhat flattened callus, whose surface is feebly rugulose, and its outer margin free on columella, sometimes forming a shallow false umbilicus; parietal callus forming a small pad next to posterior angle of aperture, but not projecting into aperture; outer lip preceded by a strong varicoid rib, edge of lip slightly incurved, sharp, convex in side-view, stromboid notch distinct; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by strong axial ribs, which are not regularly continuous from whorl to whorl, and close, barely elevated spiral lirae, crossed overall by microscopic collabral striae; interstices between spirals (at about 400 x magnification) with pumice-like pitted surface (Fig. 45). Axial ribs from termination of protoconch slightly to strongly sinuous, opisthocline, slightly protractively curved below suture, suture to suture, on body whorl reaching fasciole; in t/s slightly broader than their intervals, their crests roundedly angular, their sides steeply sloping; 11 ribs on 1st teleoconch whorl, 10 on penultimate one. Spiral lirae flattened throughout, wider than their intervals; 1st whorl with about 6 low, close threads, penultimate whorl with about 9, coarser but more ill-defined on base of body whorl, with 2–3 strong, angular cords on rostrum, crossed by coarse growth lines.

Protoconch bluntly domed, of about 1.4 whorls, protoconch I somewhat tilted; termination to protoconch II well-defined, suture fairly deep; surface with granular spiral threads under SEM (Fig. 48); breadth 0.55–0.63 mm, height 0.45–0.50 mm (b/h 1.22–1.31).

Pale orange-buff, when fresh darker between ribs, apical region deeper orange.

Dimensions: 4.1 x 2.0 mm (holotype); 4.4 x 2.0 mm, 3.7 x 1.8 mm (largest and smallest adult paratypes).

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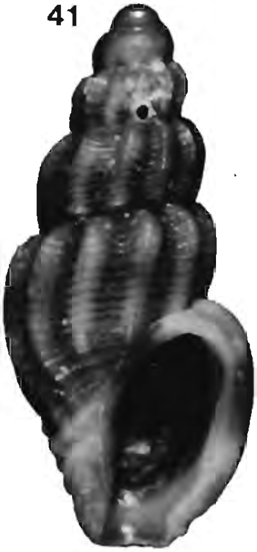

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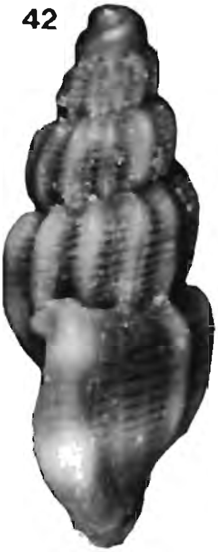

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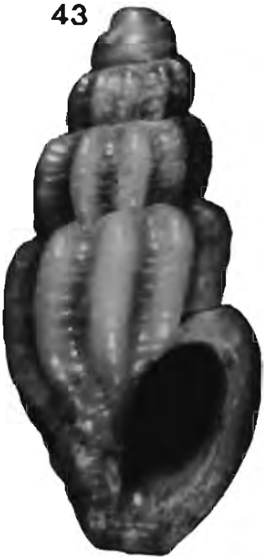

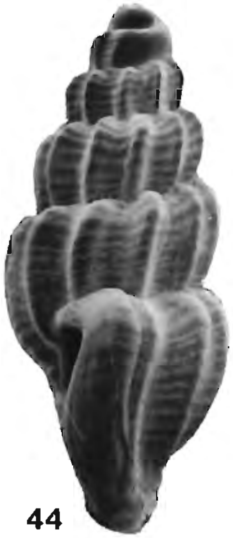

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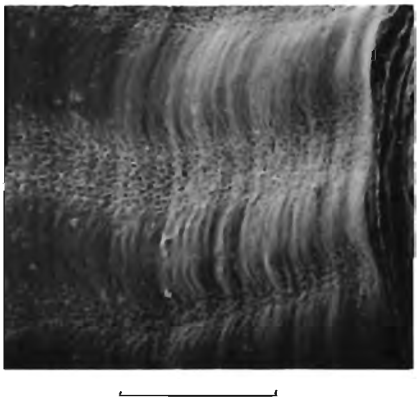
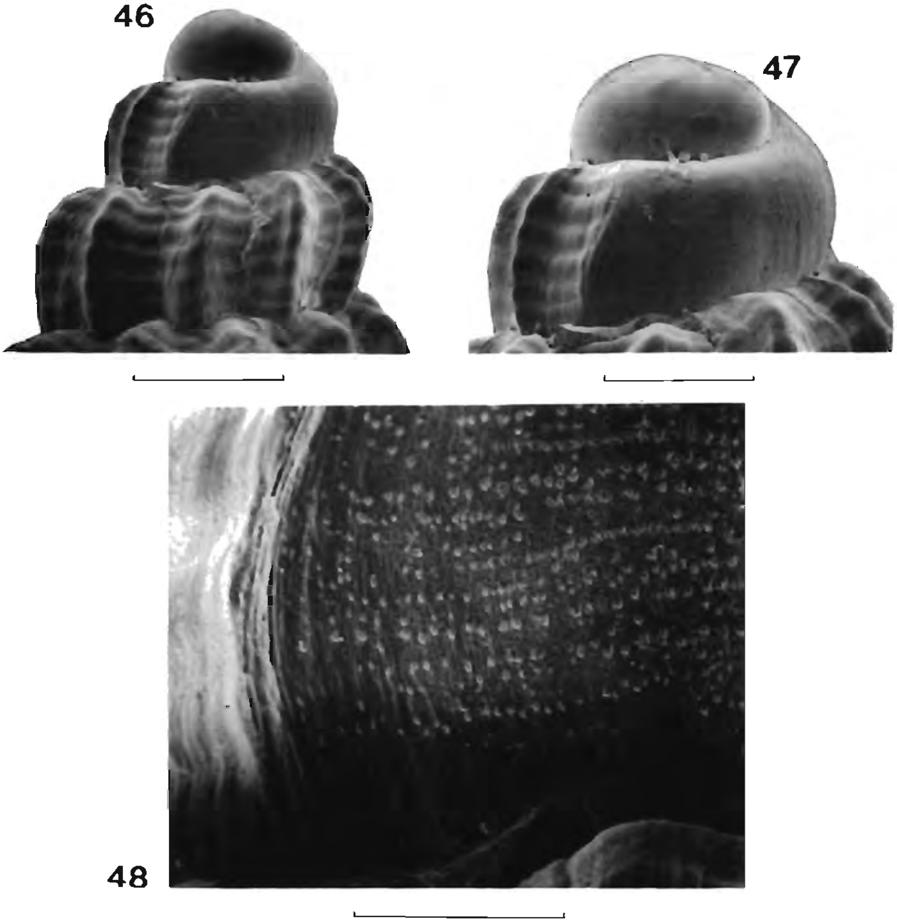


Figs 41–45. *Striatoguraleus laticulmen* sp. n. **41–42**, Holotype, NMSA A7693/T1009, 4.1 x 2.0 mm; **43**, paratype 9, NMSA C7368/T1023, off Port Grosvenor, 80 m, 4.1 x 2.0 mm; **44**, paratype 1, NMSA B3591/T1010, 3.6 x 1.7 mm, SEM; **45**, microsculpture of teleoconch, SEM, bar = 43 µm.

Distribution: Continental shelf of southern Natal to western Transkei, in about 60–130 m, on varied substrata.



Figs 46–48. *Striatoguraleus laticulmen* sp. n., SEM of paratype 1, NMSA B3591/T1010: **46**, protoconch and 1st two teleoconch whorls, bar = 380 µm; **47**, protoconch, bar = 250 µm; **48**, microsculpture on latter part of protoconch, bar = 75 µm.

Type material (all NMSA: NMDP): **Holotype** A7693/T1009, off Sandy Point, Transkei (32°40.3'S: 28°40.4'E), 97 m, gorgonians, stylasterids, sponges, living. Paratypes: NATAL: **Paratype 1**, B3591/T1010, off Park Rynie, 110–130 m, eroded shell and conglomerate. TRANSKEI: **Paratypes 2–3**, C7556/T1011, off Mtamvuna River, 137 m, rocks, sponges; **paratype 4**, C7424/T1012, do, 111 m, sponge; **paratype 5**, C7749/T1021, off Port Grosvenor, 60 m, sand, broken shell, a juvenile; **paratypes 6–8**, C7398/T1022, do, 82 m, worn calcareous nodules; **paratypes 9–11**, C7368/T1023, S5981/T1027, do, 80 m, calcareous nodules, lithothamnion sheets; **paratype 12**, C7599/T1024, off Ubombo, 80 m, mixed sand, mud, shell debris; **paratype 13**, C7334/T1025, do, 60–62 m, coarse sand, oyster shell conglomerate; **paratypes 14–16**, C7578/T1026, off Sandy Point, 94 m, gorgonians, sponges.

Notes: I have excluded from the type series a specimen from off Mgazi River in 100 m (NMSA S6198), which agrees in teleoconch characters, but has an unusually large protoconch (breadth 0.68 mm, height 0.55 mm).

The only similar species appears to be the New Caledonian *Anacithara(?) lita* (Melvill & Standen, 1896), which is narrower than *S. laticulmen*, with a smaller aperture, non-shouldered whorls and coarser spiral sculpture (see Appendix).

Etymology: *latus* (wide) + *culmen* (apex), Latin noun.

Antiguraleus Powell, 1942

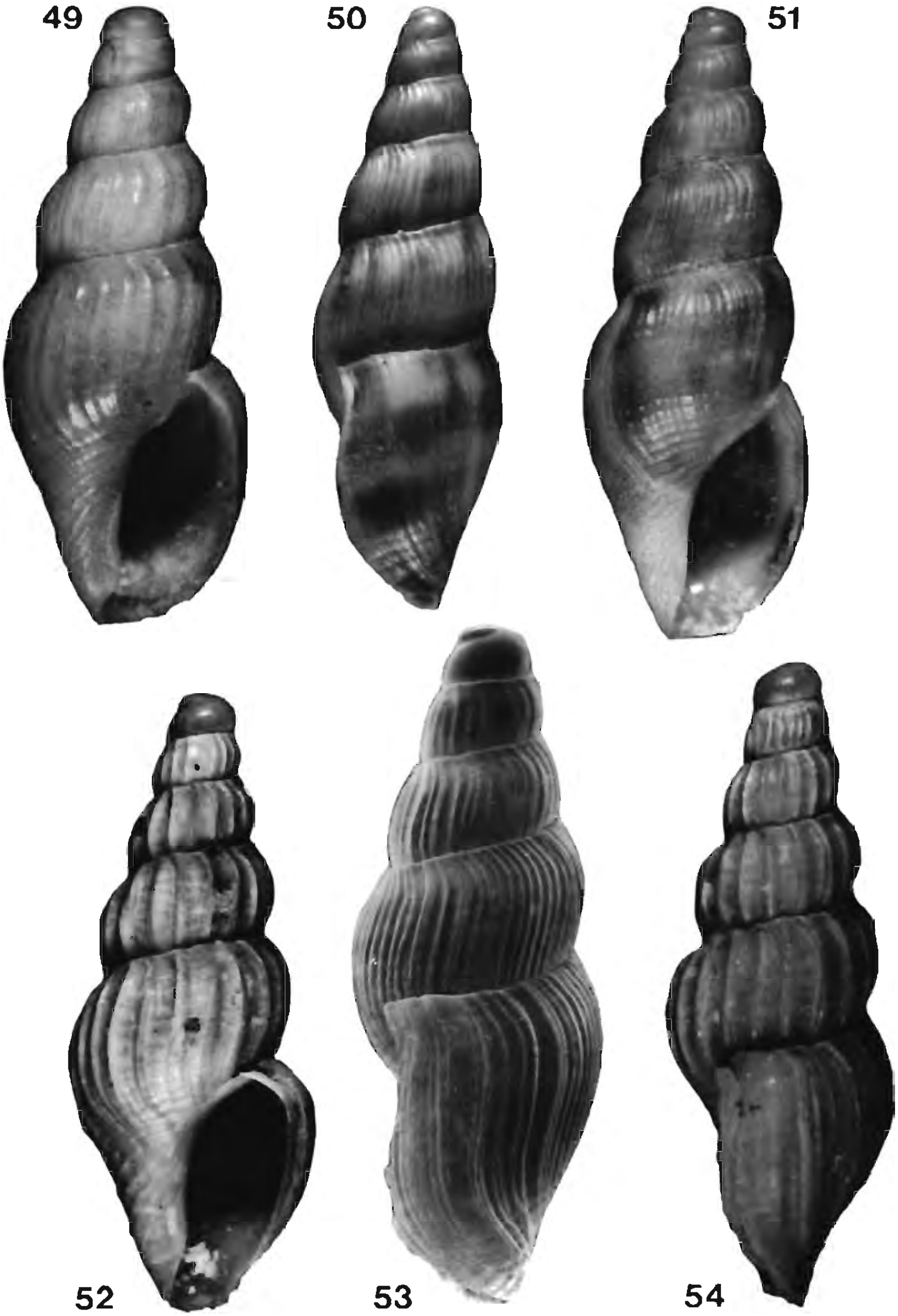
Antiguraleus Powell, 1942: 146. Type species (o.d.) *A. otagoensis* Powell, 1942, Recent of New Zealand.

?*Paraguraleus* Powell, 1944: 49. Type species (o.d.) *Guraleus (Paraguraleus) balcombensis* Powell, 1944, from the Middle Miocene of Victoria, Australia.

Diagnosis: Shell small to moderate (4–15 mm), shape claviform to fusiform, with blunt apex and moderately short base, aperture relatively wide; whorls usually adpressed below suture, not forming a bordering ridge. Sculptured by axial ribs, not continuous from whorl to whorl, often crenulating suture; overridden by spiral threads. Siphonal canal with tip not or only shallowly indented. Outer lip with a weak to strong varix, anal sinus relatively shallow but wide, asymmetrical; stromboid notch usually absent; outer lip smooth inside, inner lip smooth without a posterior callus pad. Protoconch paucispiral, papilliform, sometimes bulbous, smooth or with a few weak terminal axial riblets.

Notes: The South African species discussed here show close similarity in shell characters to various temperate-water Australasian turrids of mangeliine form, which are referred by recent workers to the genus *Antiguraleus*. Among such comparable species may be listed *Antiguraleus rossianus* Powell, 1942, and *A. pedicus* Powell, 1943, of New Zealand, and *Guraleus costatus* Hedley, 1922, and *Paraguraleus subitus* Laseron, 1954, of Victoria. On this basis, I am treating them as congeneric, although it is apparent that *Antiguraleus*, as used by Powell (1966) and Laseron (1954), is not a monophyletic group; indeed, its type species differs from both the South African species and many of the Australasian ones in its strongly angular whorls and biconical shape. *Paraguraleus* Powell, 1944, is possibly a better option, although synonymised with *Antiguraleus* by Powell (1966: 108) on the grounds that a smooth, paucispiral protoconch was present in both. This character might indeed prove to be synapomorphic in this instance, but is more likely to reflect convergent reproductive adaptations. A more practical reason for not using *Paraguraleus* is the Miocene origin of its type species, as the group can thus never be defined on anything other than shell characters. As the third alternative – the proposal of a new genus – at present has no demonstrable justification, I am utilising *Antiguraleus* as a portmanteau genus for the South African species here discussed.

As noted under *Anacithara*, an operculum is present in at least two of the South African species referred to *Antiguraleus* (*A. morganus* and *A. galatea*), indicating that these taxa, at least, do not belong to the conid subfamily Mangeliinae. Dr J. Taylor has sectioned a specimen of *A. morganus* and confirmed that foregut anatomy (e.g. the presence of an odontophore and acinous salivary glands) demonstrates that this species is non-mangeliine, and that the radula (in section) appears to be



Figs 49–54. *Antiguraleus morganus* (Barnard, 1958). **49**, Holotype of *Drillia morgana*, SAMC A8739, 7.5 x 3.1 mm; **50–51**, finely ribbed examples, NMSA B8225, off East London, 90 m: **50**, side view, 9.1 x 3.3 mm, and **51**, aperture view, 8.2 x 3.0 mm; **52, 54**, spirally striate example, NMSA C1881, off Rame Head, 410–430 m, 8.4 x 3.4 mm; **53**, SEM, NMSA C7188, 6.0 x 2.5 mm.

crassispirine. I am accordingly transferring the group to the Crassispirinae, although this decision obviously needs to be confirmed by investigation of the type species of *Antiguraleus.*

The relationship between the largely temperate-water *Antiguraleus* and the more tropical *Anacithara* also remains unclear, and I can find no clear line of division, other than the rather bulbous protoconch of *Antiguraleus.* In general, members of *Antiguraleus* lack the parietal pad and thickened outer lip of *Anacithara.*

As in the case of certain Australian species, intraspecific variation in some South African taxa is often wide, and amongst the *Antiguraleus* material so far sorted from the NMDP bottom samples are many residual individuals whose identity remains unresolved; some may prove to be merely morphological variants/ecomorphs of the species here differentiated, but others certainly represent still undescribed species.

Key to the South African species of *Antiguraleus*

1 Protoconch large (breadth 0.78–1.05 mm); axial ribs (if present) evanescing above suture, 20–47 per whorl 2
– Protoconch smaller (breadth 0.68–0.78 mm); axial ribs suture to suture, 9–17 per whorl 4
2 Without distinct axial ribs .... **necostatus**
– Axial ribs distinct 3
3 Spiral lirae usually distinct only on base of body whorl, feeble or absent elsewhere .... **morganus**
– Spiral lirae well-developed overall .... **sericeus**
4 Spiral sculpture of shallow grooves, 6–10 on penultimate whorl; 1st whorl of protoconch depressed .... **perfluans**
– Spiral sculpture of low ridges, 15–18 on penultimate whorl; 1st whorl of protoconch axially tilted. .... **galatea**

Antiguraleus morganus (Barnard, 1958)

Figs 49–56

Drillia morgana Barnard, 1958: 133, text fig. 16. Type locality: off Cape Morgan, 47 fathoms [= 86 m].

Diagnosis: Shell narrowly fusiform with a blunt apex, b/l 0.37–0.46, a/l 0.39–0.46, outer lip not contracted basally; base of siphonal canal obliquely truncate; suture not crenulated by axial ribs; ribs thin, low, weak to moderately strong, slightly angularly rounded in t/s, slightly opisthocline and arcuate to slightly sigmoid, 22–47 per whorl; typically spiral lirae restricted to base of body whorl, 8–10, occasionally faint striae elsewhere, rarely shallow grooves; collabral threads mostly coarse. Pale orange-brown, with an occasional darker orange blotch. Protoconch I depressed and rather flattened; diameter 0.98–1.05 mm. Maximum length 9.5 mm.

Description: Shell narrowly fusiform with a high, blunt, orthoconoid spire and moderately short, tapering base; b/l 0.37–0.46, a/l 0.39–0.46; teleoconch whorls numbering up to about 4.3; suture fairly shallow, not crenulated by rib terminations; whorls moderately convex, periphery above middle, shoulder slope very slightly concave; siphonal canal moderately short, wide and oblique, its termination basally oblique, not indented, left side of base shallowly concave, fasciole not differentiated. Aperture somewhat lanceolate, posterior end more or less right-angled, columella straight or slightly concave, parietal region straight, the two intersecting in a gentle curve; inner lip with a rather thin, smooth, somewhat flattened callus; parietal callus not forming a pad posteriorly; outer lip preceded by a low but fairly wide varicoid rib, edge of lip moderately convex in side-view, stromboid notch absent; lip internally smooth; anal sinus very shallow, rather wide and asymmetrically curved.

Sculptured by thin, low, weak to moderately strong axial ribs, with coarse growth lines that occasionally may be as strong as the ribs or render them bifid; spiral sculpture typically only fully developed on base of body whorl, elsewhere absent or extremely faint, rarely with shallow grooves elsewhere. Axial ribs evanescing above suture and on body whorl below parietal level; in t/s slightly angularly rounded, mostly wider than intervals, but very irregular in spacing, slightly opisthocline, weakly arcuate to slightly sigmoid; weak and irregular in development on 1st teleoconch whorl, 22–47 on penultimate whorl. Spiral lirae 8–10 on base of body whorl, close-set, slightly declivous, becoming weak basally, but ending abruptly posteriorly, weakly pliculated by growth lines.

Protoconch domed, vitreous, of about 1.7 whorls (termination sharply defined), protoconch I depressed and flattened; protoconch II smooth except for a few growth lines near termination; breadth 0.98–1.05 mm, height 0.65–0.93 mm (b/h 1.11–1.51).

Translucent pale orange-brown, with an occasional darker, nebulous blotch and two ill-defined darker bands towards termination of body whorl (darkest on varix).

Dimensions: 9.5 x 3.7 mm, 7.2 x 2.8 mm (largest and smallest adults examined)

Distribution: Eastern Cape (East London) to Transkei/Natal boundary, empty shells in 90–500 m.

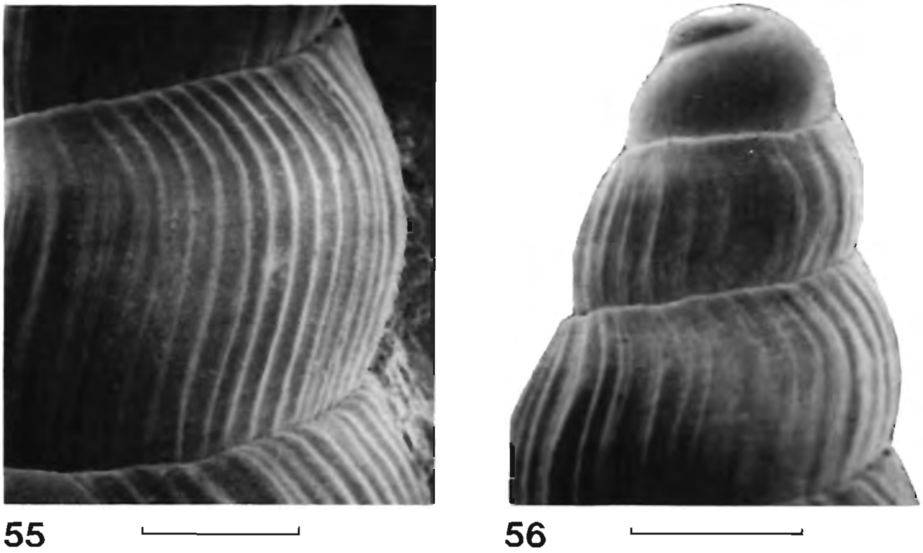
Type material: Holotype SAMC A8739 (Fig. 49).

Locality data (all NMSA: NMDP): EASTERN CAPE: off East London, 90 m, coarse sand, sponges, gorgonians (D705, B8225). TRANSKEI: off Kei River mouth, 390 m, coarse sand (C7735); do, 300 m, coarse sand, broken shell (C6686); off Qolora River mouth, 440–446 m, fine sand and *Dendrophyllia* (C4058); off Sandy Point, 90 m, calcareous debris, coarse sand (C4506); do, 380–400 m, muddy sand (C7005); off Stony Point, 460 m, sandy mud with stones, some clay (C6661); do, 390–400 m, muddy sand, small stones (C6794); do, 395 m, sponge and stone (C4356); off Qora River mouth, 400 m, sand (C4865); off Shixini Point, 300 m, coarse sand, broken shell (C6363); off Nqabara Point, 330–340 m, muddy sand, broken coral, shells (C6458); off Mbashe River, 450–500 m, coarse sand, some mud (C9065); do, 295–300 m, old shell rubble (C9000); do, 295–350 m, coarse sand (C9124); off Nthlonyane River, 95 m, sponge rubble (C7531); do, 220–230 m, branching sponges, gorgonians (C7551); off Bulungulu River, 250–300 m, coarse sand (C9345); off Whale Rock, 400-420 m, coarse sand, old shell debris, stones (C2048); do, 90 m, sponge rubble, small pebbles (C7255); off Mtamvuna River mouth, 110 m, some pebbles (C7790).

Specimens with distinct spiral sculpture on spire whorls: TRANSKEI: off Shixini Point, 500 m, muddy sand, coral rubble (C7058); off Rame Head, 410–430 m, stones, some sand (C7372, C1881); off Mbotyi, 250 m, coarse sand, stones (C9911)

Notes: *Antiguraleus morganus* is evidently closely allied to *Guraleus costatus* Hedley, 1922, of New South Wales, which Laseron (1954: 35) transferred to

Paraguraleus and Powell (1966: 106) to *Antiguraleus*. Comparison with the holotype of *A. costatus* (AMSA C25877) shows that the latter species differs in its more widely-spaced axial ribs, deeper anal sinus and much smaller protoconch (breadth 0.83 mm against 0.98–1.05 mm in *morganus*).



Figs 55–56. *Antiguraleus morganus* (Barnard, 1958). **55**, SEM of sculpture, NMSA C7188, bar = 600 µm; **56**, protoconch and 1st teleoconch whorl, bar = 860 µm.

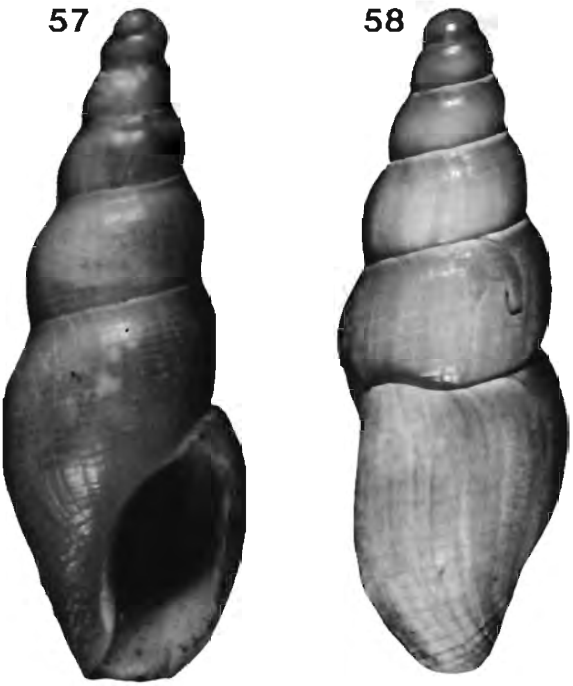
Although previously known only from the holotype, this species has proved to be not uncommon on the upper Transkei continental slope, although rare in shallower water. However, few fresh shells and only two living examples were dredged, most shells being chalky or damaged. The species shows some indication of bathymetric variation, in that specimens from the continental slope (300 m down) generally have finer axial ribs (34–47 on penultimate whorl) than most of those from shallow water, in which (Fig. 49) ribs are coarser and fewer (15–42 on penultimate whorl). In more finely plicate specimens (Figs 50–51) the ribs are augmented by the almost equally strong growth lines.

A few samples of rather chalky shells from 250–500 m off Transkei represent a morph (Figs 52, 54) with relatively strong axial ribs and atypical development of spiral sculpture; in addition to having 7–12 distinct basal lirae, up to 7 faint to distinct grooves are present on the penultimate and earlier whorls.

Antiguraleus necostatus sp. n.

Figs 57–58

Diagnosis: Shell narrowly fusiform with a bluntly acute apex, b/l 0.38–0.41, a/l 0.38–0.41, outer lip not contracted basally; base of siphonal canal squarely truncate; anal sinus barely indented; suture not crenulated; ribs not developed, only weak axial growth interruptions; spiral lirae overall (except on 1st few whorls), 7–16 slightly raised lirae on base of body whorl, elsewhere with close, barely elevated threads, 13–14 on penultimate whorl. Translucent brownish-white. Protoconch I axially tilted; diameter 0.90–0.95 mm. Maximum length 8.8 mm.



Figs 57–58. *Antiguraleus necostatus* sp. n. **57**, Holotype NMSA C4867/T965, 8.8 x 3.3 mm; **58**, side view of paratype 6, NMSA C9237/T970, off Nthlonyane River, 345–400 m, 7.0 x 2.7 mm.

Description: Shell narrowly fusiform with a high, orthoconoid, slightly acute spire and moderately short, tapering base; b/l 0.38–0.41, a/l 0.38–0.41; teleoconch whorls numbering up to about 4.3; suture fairly shallow; whorls moderately convex, periphery median, shoulder slope very slightly concave; siphonal canal moderately short, wide and oblique, its termination squarely truncate, not indented, left side of base concave, fasciole not differentiated. Aperture somewhat lanceolate, posterior end more or less right-angled, columella straight or slightly concave, parietal region straight, the two intersecting in a gentle curve; inner lip with a rather thin, smooth, somewhat flattened callus; parietal callus not forming a pad posteriorly; outer lip preceded by a low and ill-defined but fairly wide varicoid rib, edge of lip moderately convex in side-view, stromboid notch absent; lip internally smooth; anal sinus scarcely indented, rather wide and asymmetrically curved.

Axial sculpture not developed, save for inconspicuous, rather irregular, sinuous, growth interruptions; spiral sculpture of barely raised lirae, visible more by their opaque, shallowly grooved intervals than by elevation, except on base of body whorl where they are distinctly raised. Spiral lirae not developed on first few whorls, 13–14 flattened, closely spaced lirae on penultimate whorl, of which 4–6 below suture are the most elevated; base of body whorl with 7–8 rounded, close-set lirae, usually forming a series which ends abruptly posteriorly, but sometimes entire base with about 16 lirae, forming a continuity with the supraperipheral sculpture.

Protoconch papilliform, vitreous, of about 1.3 whorls; protoconch I axially tilted; protoconch II smooth, termination sharply defined; breadth 0.90–0.95 mm, height 0.68–0.95 mm (b/h 0.94–1.03).

Uniform brownish-white, translucent when fresh.

Dimensions: 8.8 x 3.3 mm (holotype); 7.0 x 2.7 mm (smallest adult paratype).

Distribution: Upper continental slope of eastern Transkei, empty shells in about 300–500 m.

Type material (all NMSA: NMDP, empty shells): **Holotype** C4867/T965, off Qora River mouth (32°34.2'S: 28°39.4'E), 400 m, sand. **Paratype 1**, C3860/T966, off Kei River mouth, 390 m, coarse sand. **Paratype 2**, C4614/T967, off Qolora River mouth, 440–446 m, fine sand, *Dendrophyllia*. **Paratype 3**, C9125/T968, off Mbashe River mouth, 295–350 m, coarse sand. **Paratypes 4–5**, S1213/T969, off Shixini Point, 500 m, muddy sand, coral rubble, juveniles. **Paratype 6**, C9237/T970, off Nthlonyane River, 345–400 m, fine sand.

Notes: This species is one of several that are assumed to be Turridae, but whose overall appearance is also suggestive of the family Columbellidae. It is referred to *Antiguraleus* mainly on the grounds of its general resemblance to finely ribbed examples of *A. morganus*; from the latter species, *necostatus* differs in the form of its protoconch, in its basal extremity being level (not oblique), and in the presence on the spire whorls of feeble but distinct spiral sculpture but no definite axial ribs. It agrees with none of the species described from southern Africa as members of the Columbellidae.

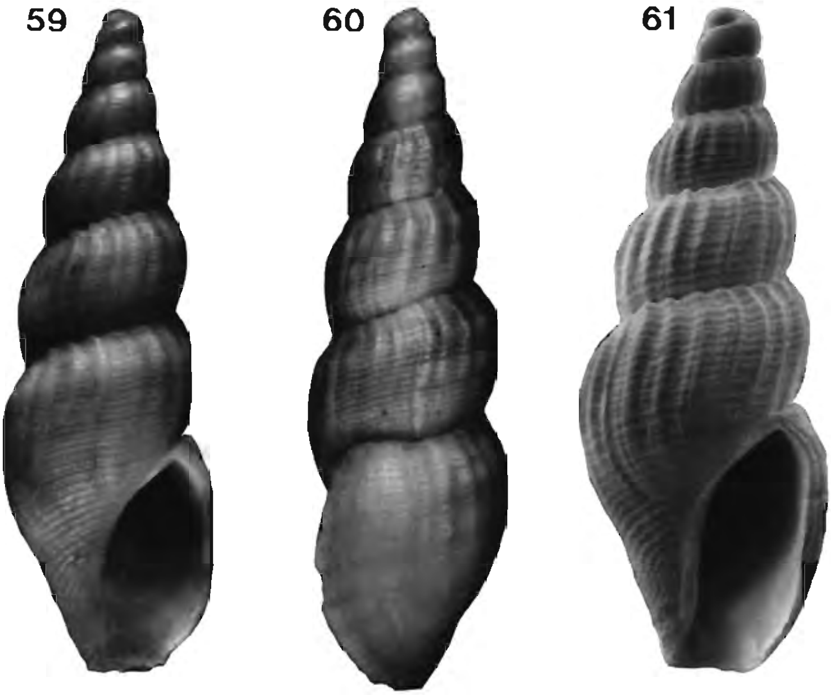
Etymology: *ne* (not) + *costatus* (ribbed), Latin adjective.

Antiguraleus sericeus sp. n.

Figs 59–63

Diagnosis: Shell narrowly fusiform with a somewhat blunt apex, b/l 0.35–0.39, a/l 0.35–0.39, outer lip not contracted basally; base of siphonal canal squarely truncate; anal sinus barely indented; suture not crenulated by axial ribs; ribs thin, very low and somewhat irregular, strongest on upper part of whorl, usually becoming obsolete above suture, rounded in t/s, slightly opisthocline and strongly sigmoid, 20–29 on penultimate whorl; spiral lirae overall, low, close-set, but width irregular, 21–22 on penultimate whorl, 17–20 on base of body whorl; collabral threads coarse; microscopic spiral striae visible overall at about 350 x magnification. Pale yellowish-brown or buff. Protoconch I axially tilted; diameter 0.78–1.03 mm. Maximum length 10.4 mm.

Description: Shell narrowly fusiform with a very high, somewhat blunt, orthoconoid spire and moderately short, tapering base; b/l 0.35–0.39, a/l 0.35–0.39; teleoconch whorls numbering up to about 5.0; suture fairly shallow, closely crenulated by rib terminations; whorls moderately convex, periphery above middle, shoulder slope very slightly concave; siphonal canal moderately short, wide, oblique, its termination squarely truncate, not indented, left side of base concave, fasciole not differentiated. Aperture somewhat lanceolate, posterior end more or less right-angled, columella somewhat convex, obliquely truncate at base, parietal region straight, the two intersecting in a gentle curve; inner lip with a rather thin, smooth, somewhat flattened callus; parietal callus not forming a pad posteriorly; outer lip preceded by a low but fairly wide varicoid rib, edge of lip moderately convex in side-view, stromboid notch not developed; lip internally smooth; anal sinus very shallow, rather wide and asymmetrically curved.



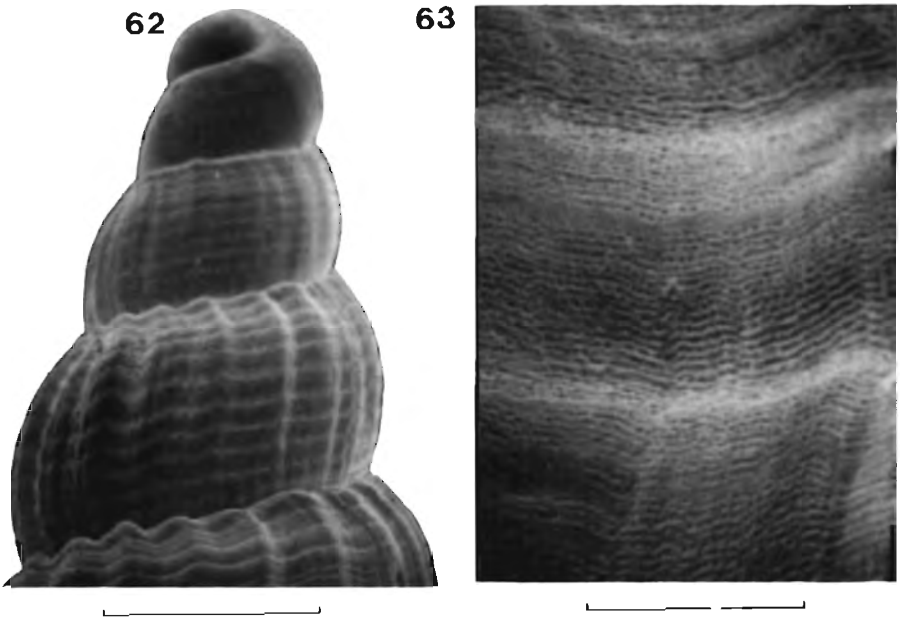
Figs 59–61 *Antiguraleus sericeus* sp. n. **59–60**, Holotype, NMSA C4867/T965, 8.8 x 3.3 mm; **61**, paratype 2, NMSA C7256/T985, off Whale Rock, Transkei, 6.9 x 2.8 mm.

Sculptured by thin, very low, rather irregular axial ribs, strongest on adapical part of whorl, usually becoming obsolete above suture, occasionally not, with coarse growth lines that may be as strong as the ribs; ribs crossed (but barely incised) by spiral threads which are low and close-set, but developed overall; at about 350 x entire surface is seen to be covered by microscopic spiral threads, stronger in interstices. Axial ribs in t/s rounded, mostly equal to / wider than intervals, but very irregular in spacing and width, opisthocline, distinctly sigmoid; rather weak on 1st teleoconch whorl, 20–29 on penultimate whorl, becoming feeble on later part of body whorl. Spiral lirae 10–11 on 1st teleoconch whorl, 21–22 on penultimate whorl, and 17–20 on base of body whorl; lirae of irregular width, subsutural ones finer than elsewhere, those on base of body whorl more elevated.

Protoconch papilliform, vitreous, of about 1.5 whorls; protoconch I axially tilted; protoconch II smooth, termination sharply defined; breadth 0.78–1.03 mm, height 0.73–1.00 mm (b/h 1.00–1.07).

Uniform yellowish-brown or pale buff.

Dimensions: 10.4 x 3.5 mm (holotype); 7.5 x 3.0 mm (smallest adult paratype).



Figs 62–63. *Antiguraleus sericeus* sp. n., SEM of paratype 2. **62**, protoconch and 1st two teleoconch whorls, bar = 750 µm; **63**, microsculpture of teleoconch, bar = 50 µm.

Distribution: Transkei continental shelf, empty shells in 90–240 m on sponge and sand.

Type material (all NMSA: NMDP, empty shells): **Holotype** C4156/T984, off Nqabara Point (32°22.9'S: 28°53.3'E), 95 m, sponge, sand. **Paratype 1**, C5319/T989, off Kwanyana River (31°11.0'S: 30°13.4'E), 100 m, sponge rubble. **Paratype 2**, C7256/T985, off Whale Rock, 90 m, sponge rubble, small pebbles. **Paratype 3**, C6349/T986, off Shixini Point, 240 m, sand and old rubble. **Paratype 4**, C7746/T987, off Sandy Point, 90 m, calcareous debris, coarse sand; specimen slightly deformed. **Paratype 5**, C5113/T988, off Kei River, 138 m, coarse sand.

Notes: This species is broadly sympatric with *Antiguraleus morganus*, but more closely resembles the deeper water *A. necostatus* in protoconch form, overall spiral sculpture and non-oblique base; from *necostatus*, *A. sericeus* differs in its well-developed axial ribs.

Etymology: *sericeus* = silky, Latin adjective, from the appearance conveyed by the finely clathrate sculpture.

Antiguraleus galatea sp. n.

Figs 64–72

Diagnosis: Shell claviform with a somewhat blunt apex, b/l 0.44–0.48, a/l 0.40–0.44, outer lip contracted basally; base of siphonal canal somewhat obliquely truncate; anal sinus relatively deep for genus, but wide; suture often weakly crenulated by axial ribs; ribs fairly strong, roundedly angular in t/s, opisthocline, shallowly sigmoid, 12–13 on penultimate whorl; spiral lirae overall, very low, 15–18 on penultimate whorl, 14–16 on base of body whorl; growth lines fine. Dull brownish-orange, back of lip white with orange bars. Protoconch I axially tilted; protoconch diameter 0.65–0.68 mm. Maximum length 5.0 mm.

Description: Shell claviform with a moderately high, somewhat blunt, orthoconoid spire and short, contracted and quite strongly tapering base; b/l 0.44–0.48, a/l 0.40–0.44; teleoconch whorls numbering up to about 4.0; suture moderately deep, often weakly crenulated by rib terminations; whorls quite strongly convex, with a slight, rounded shoulder at about 0.3 whorl below suture, shoulder slope slightly flattened; siphonal canal moderately short, wide, oblique, its termination somewhat obliquely truncate, not distinctly indented, left side of base moderately concave, fasciole not or barely differentiated. Aperture somewhat lanceolate, posterior end obtuse, columella slightly convex, obliquely slightly truncate at base, parietal region more or less straight, the two intersecting in a gentle curve; inner lip with a fairly thin, smooth, somewhat flattened callus, its edge sometimes slightly free basally, forming a feeble false umbilicus; parietal callus not forming a pad posteriorly; outer lip preceded by a low but fairly wide varicoid rib, set slightly back from lip, edge of lip rather strongly convex in side-view, stromboid notch present; lip internally smooth; anal sinus rather shallow but wide and asymmetrically curved.

Sculptured by moderately strong, opisthocline axial ribs, extending from suture to suture, growth lines relatively fine; whorls covered by very low spiral lirae. Axial ribs in t/s roundedly angular, more or less narrower than their intervals, slightly asymmetrical, and usually compressed; very shallowly sigmoid, on body whorl evanescing below parietal level; 13–15 on 1st teleoconch whorl, 12–13 on penultimate whorl, becoming feeble on later part of body whorl. Spiral lirae ill-defined or absent on 1st teleoconch whorl, 15–18 on penultimate whorl, and 14–16 on base of body whorl; more or less alternately wider and narrower, 6–7 subsutural lirae generally finer than elsewhere, those on upper part of rostrum more elevated, but becoming obsolete terminally.

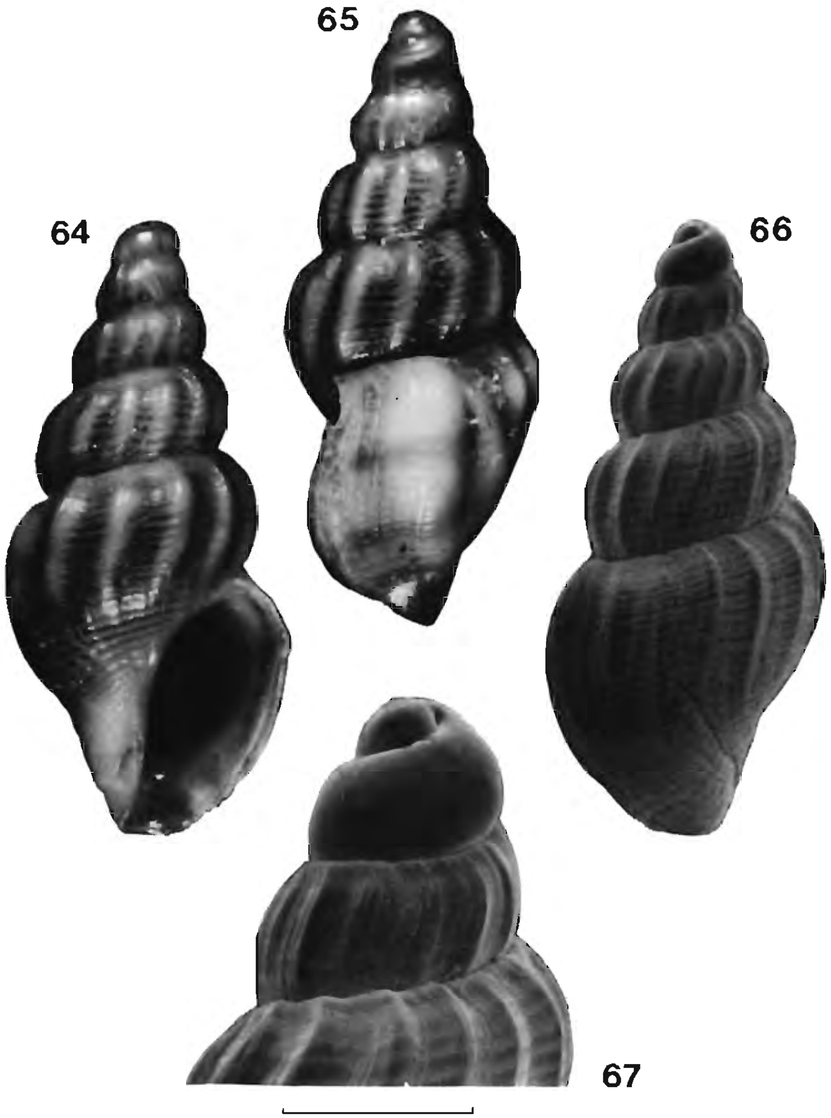
Protoconch papilliform, vitreous, of about 1.6 whorls; protoconch I axially slightly tilted; protoconch II smooth, with some coarse growth lines/plicules towards termination, which is sharply defined; breadth 0.65–0.68 mm, height 0.60–0.65 mm (b/h 1.05–1.13).

Translucent brownish-orange, varix and back of lip whitish with about 5 transverse orange bars, inner lip sometimes deeper brownish-orange; one paratype is almost colourless.

Dimensions: 4.5 x 2.1 mm (holotype); 5.0 x 2.4 mm (largest paratype).

Operculum present, lanceolate with obtuse apex, translucent brownish-yellow.

Distribution: Continental shelf of western Transkei, in 110–140 m, on a sponge bottom.



Figs 64–67. *Antiguraleus galatea* sp. n. **64–65**, Holotype, NMSA C804/T972, 4.5 x 2.1 mm; **66**, SEM of paratype 2, NMSA C7513/T974, 4.0 x 1.9 mm; **67**, protoconch and 1st teleoconch whorl of paratype 2, bar = 500 µm.

Type material (all NMSA: NMDP, empty shells unless otherwise stated): **Holotype** C804/T972, off Mtamvuna River mouth (31°09.9'S: 30°15.1'E), 140 m, sponge rubble, dried body visible inside. **Paratype 1**, C9259/T973, off Mbashe River mouth, 110 m, coral, sponge rubble. **Paratypes 2–4**, C7513/T974, off Mtamvuna River mouth, 120–140 m, sponge rubble.

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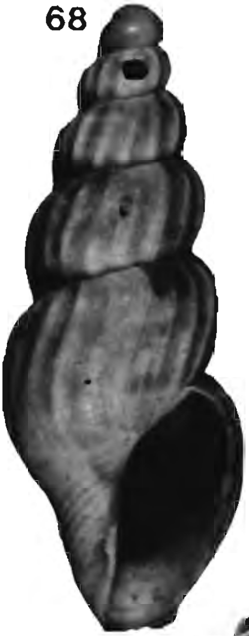

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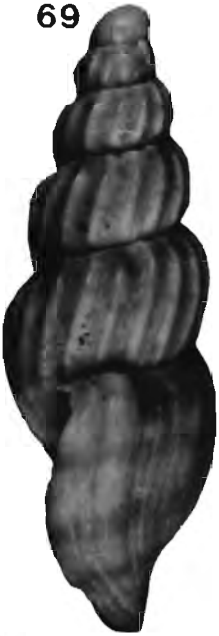

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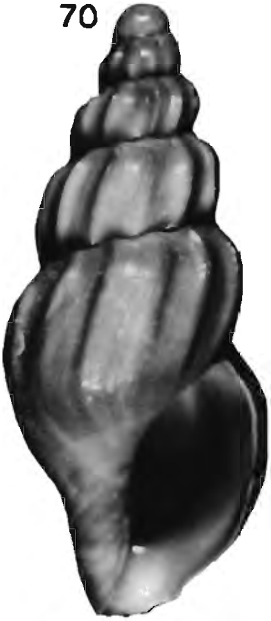

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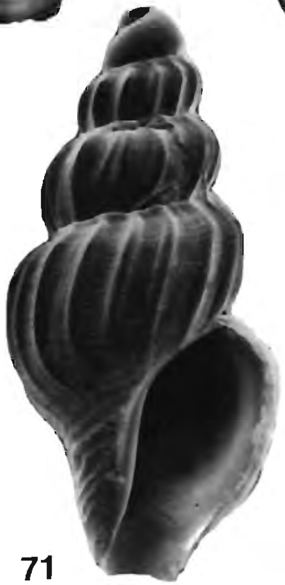

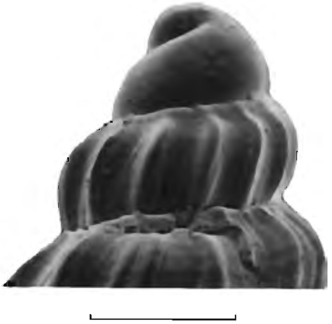
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Figs 68–72. *Antiguraleus ?galatea*. **68–69**, NMSA E8304, S. E. of Neill Peak, Zululand, 320–340 m, 6.4 x 2.6 mm; **70**, NMSA E3352, off Cape St Lucia, 290–310 m, 5.7 x 2.6 mm; **71**, SEM of NMSA S6190, off Cape Vidal, 200 m, 3.9 x 1.9 mm; 72, protoconch of previous, bar = 600 µm.

Notes: Occasional examples of *Antiguraleus galatea* show a superficial resemblance to *Striatoguraleus vellicatus* sp. n., but the spirally striate and initially more depressed protoconch of the latter species distinguishes them.

A. galatea appears to be only one of a complex of species that cannot be fully differentiated until much more material is available. I am restricting the name to a Transkei-shelf population characterised (Figs 64–67) by relatively few axial ribs (12–13 on penultimate whorl), which are distinctly compressed and strongly sinuous, and initially rather weak and irregular; the protoconch and inner lip are colourless.

Material from Zululand and Natal appears to represent a deeper water taxon, in which the axial ribs are strong from their inception, slightly straighter, and number 14–17 per whorl; the protoconch and inner lip are generally orange-brown, and protoconch I is smaller. This material (mostly in poor condition) was dredged in about 145–300 m, mainly on bottoms of sand or mud instead of sponge. However, even among these samples (Figs 68–72) there is some variation in the size of the protoconch, development of spiral sculpture (this is sometimes obsolete except on the base) and the presence or absence of a stromboid notch, indicating that this series may prove to be composite. Certainly some specimens dredged on the muddy continental slope off Zululand appear to represent an ecomorph or possibly distinct species (Fig. 70) in which shells are larger than usual, with spiral sculpture that is usually faint or absent, except on the base.

Material examined (all NMSA: NMDP): ZULULAND: off Cape Vidal, 200 m, sponge rubble (S6190); do, 145 m, medium sand (S7487); off Cape St Lucia, 290–310 m, glutinous mud (E3352); S. E. of Neill Peak (Cunge), 320–340 m, sandy mud (E8304); S. E. of Port Durnford, 310–320 m, glutinous sandy mud (E3202). NATAL: off Umlaas Canal, 250 m, coarse sand (D1440).

Etymology: *Galatea*, Greek personal noun, one of the nereids.

Antiguraleus perfluans (Barnard, 1958)

Figs 73–77

Drillia perfluans Barnard, 1958: 132, textfig. 15a; idem, 1969: 606. Type locality: 'off Hood Point (East London area), 49 fathoms' [erroneous: = off Durban, 100 m, here emended].

Diagnosis: Shell claviform with a blunt apex, b/l 0.42–0.47, a/l 0.38–0.42; suture slightly undulating, whorls with a slight to moderate shoulder; outer lip not contracted basally; base of siphonal canal obliquely truncate; axial ribs fairly strong, roundedly angular in cross-section, arcuate to slightly sigmoid, 9–11 per whorl; spiral sculpture of shallow grooves, varying in spacing, 3-6 (plus 3-4 closer grooves subsuturally) on penultimate whorl, forming low lirae on rostrum; collabral striae fine. Pinkish-white to pink. Protoconch somewhat bulbous, protoconch I depressed; diameter 0.70–0.73 mm. Maximum length 5.8 mm.

Description: Shell claviform with a short base and blunt, more or less orthoconoid spire; b/l 0.42–0.47, a/l 0.38–0.42; teleoconch whorls numbering up to about 4; suture fairly shallow, slightly undulating; whorls convex, with slight to moderate, sloping, rounded shoulder at about 0.3 whorl below suture; shoulder slope slightly concave; siphonal canal short, wide, oblique, its termination obliquely truncate, not indented, left side of base shallowly concave, fasciole feebly differentiated. Aperture

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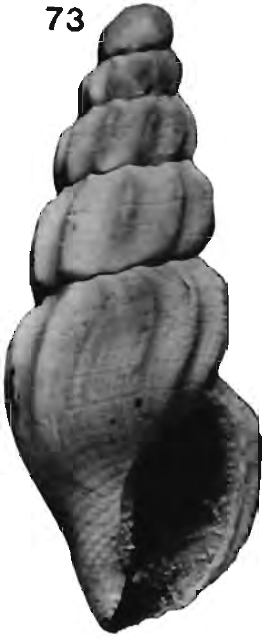

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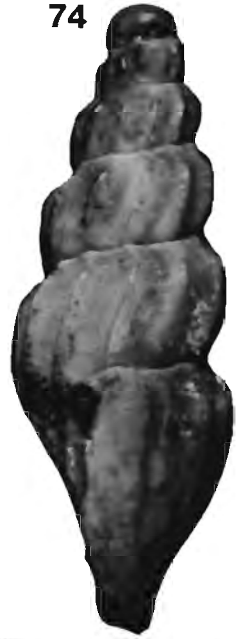

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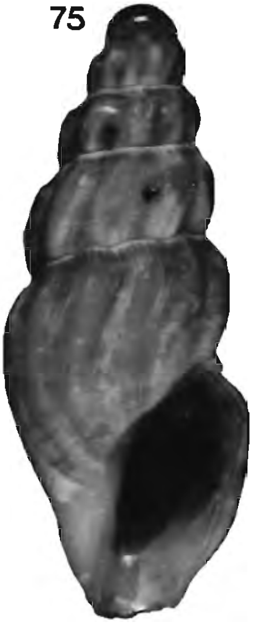

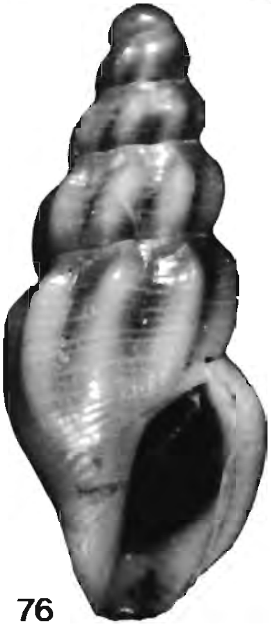
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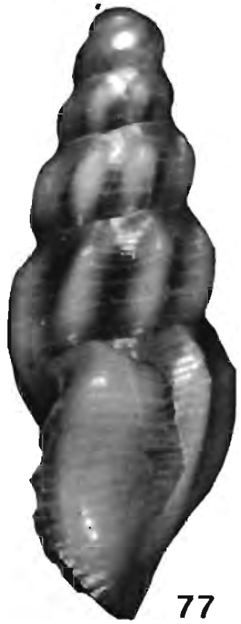
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Figs 73–77. *Antiguraleus perfluans* (Barnard, 1958). **73–74**, Holotype, SAMC A8716, 5.8 x 2.4 mm; 75, NMSA E7387, off Durban, 110–120 m, 4.8 x 2.1 mm; **76–77**, NMSA E7387, off Durban, 110–120 m, 4.8 x 2.1 mm.

rather linearly oblong, posterior angle obtuse, columella slightly convex to straight, parietal region straight, the two intersecting in an even curve; inner lip with a thin, smooth, somewhat flattened callus, sometimes forming a feeble false umbilicus anteriorly; parietal callus not forming a pad posteriorly; outer lip preceded by a moderate to strong varicoid rib, edge of lip slightly incurved, sharp, convex in side-view, stromboid notch not apparent; lip internally smooth; anal sinus shallow, rather wide and asymmetrically curved.

Sculptured by rather strong axial ribs, not regularly continuous from whorl to whorl, crossed by very shallow spiral grooves; growth lines fairly coarse. Axial ribs opisthocline, arcuate to sigmoid, protractively curved below suture, where they may weaken, straighter on early whorls, evanescing on body whorl below parietal level; in t/s narrower than their intervals (which are shallowly concave), their crests roundedly angular, their sides gradually sloping; 9–11 ribs per whorl. Spiral grooves somewhat irregular in spacing, 3–6 main grooves on penultimate whorl (plus 3–4 weaker, closer-set grooves below suture), on base of body whorl forming 10–12 thin lirae.

Protoconch somewhat bulbously papilliform, of about 1.6 whorls; protoconch I depressed; protoconch II smooth, termination distinct; breadth 0.70–0.73 mm, height 0.58–0.63 mm (b/h 1.15–1.22).

Pale pink, or white with a pink tinge.

Dimensions: 5.8 x 2.4 mm (holotype); 4.2 x 1.9 mm (smallest adult examined).

Distribution: Continental shelf of Natal in Durban–Tongaat area, in 88–120 m (mostly empty shells) on muddy sand.

Type material: Holotype SAMC A8716 (Figs 73-74). The erroneous type locality of 'Hood Point' is believed to be the result of mislabelling of *Pieter Faure* material (see Kilburn 1988: 271, for similar cases); the NMDP obtained no examples of the species south of the Durban area.

Additional locality data (all NMSA: NMDP, empty shells unless otherwise stated): NATAL: off Durban, 100 m, slightly muddy sand (NMSA E7386); do, 110–120 m, coarse muddy sand (E7387, one living); off Durban Bluff (Cooper Lighthouse), 88 m, firm grey sandy mud (D4406); off Tongaat Bluff, 100 m, coarse sandy mud (E9726).

Notes: Because of its muddy habitat, shells of this species rapidly become chalky, and only one fresh example (Figs 76–77) was dredged. There is some variation in the strength of both axial and spiral sculpture.

APPENDIX

During the background research for this paper it was necessary to examine much of the extant type material described in the family Turridae. I reproduce here some of my notes and photographs of extralimital species pertaining to the genera *Anacithara* and *Graciliclava*. In all cases the type specimens are to a greater or lesser extent worn, and the lack of protoconch sculpture needs to be confirmed under SEM in fresh examples.

Anacithara ione (Melvill & Standen, 1896), **comb n.**

Fig. 78

Drillia ione Melvill & Standen, 1896*b*: 277, pl. 9, fig. 9; Trew, 1987: 47. Type locality: Loyalty Islands [Lifou].
Mangilia ione Bouge & Dautzenberg, 1914: 151.
Mangilia ione var. *fulva* Bouge & Dautzenberg, 1913: 151. Type locality: Lifou.
Mangilia ione var. *macula* Bouge & Dautzenberg, 1913: 151. Type locality: Lifou.

Type material: Two somewhat worn syntypes BMNH 1897.1.22.82-3 were examined (fig. 78). See Trew (1987) for location of additional syntypes.

Notes: Whorls with very slight, rounded peripheral angle, below median on early whorls, just above it on penultimate whorl; axial ribs 7 on penultimate whorl, somewhat opisthocline and slightly arcuate, forming weak but regular crenations at suture; spiral threads fine, narrower than their intervals (except below suture where finer and closer), 18–20 on penultimate whorl, anteriorly with intermediary threads, crossed by microscopic collabral striae. Pale violaceous [other specimens light brown or white, sometimes with a dorsal blotch of brown]. Protoconch missing in all examples seen. Dimensions: 5.8 x 2.5 mm.

Anacithara modica (E. A. Smith, 1882), **comb n.**

Fig. 79

Pleurotoma (Mangilia) modica E. A. Smith, 1882: 213. Type locality: 'Japan?'.

Type material: Holotype BMNH 1874.5.26.79, a somewhat eroded, colourless shell (Fig. 79).

Notes: Axial ribs distinctly crenulating suture on spire whorls, barely so on body whorl, rather straight, opisthocline, in t/s roundedly angular, slightly compressed, more or less equal to intervals, 11 on 1st whorl, 10 on penultimate one; only visible spiral sculpture 6 or 7 well-developed spiral lirae on rostrum. Lip varix thick, rounded in t/s, only moderately convex in side-view; anal sinus shallow. Parietal pad weak. Protoconch narrowly domed, of 2 smooth whorls, breadth ca. 0.65 mm. Dimensions 5.5 x 2.6 mm.

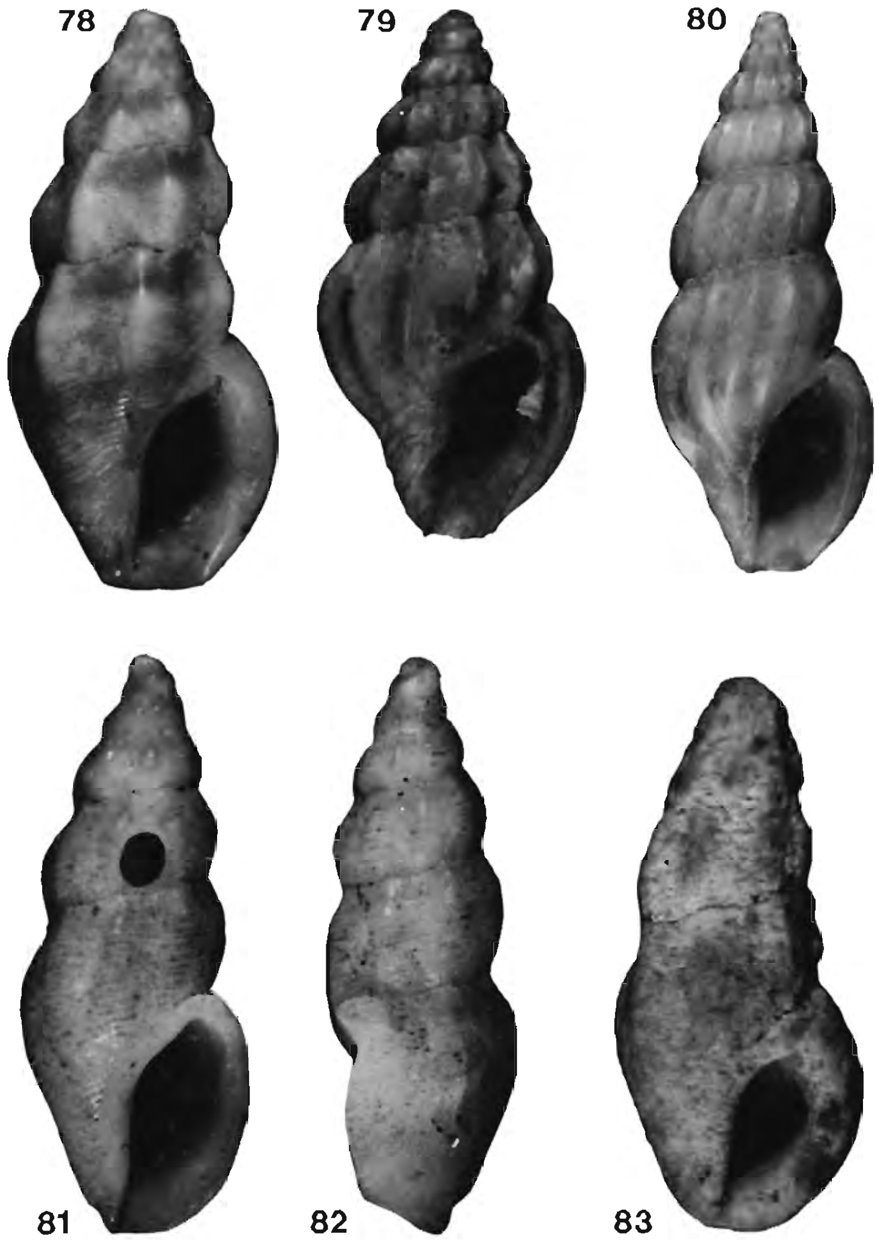
Anacithara minutistriata (E. A. Smith, 1882), **comb n.**

Fig. 80

Pleurotoma (Mangilia) minutistriata E. A. Smith, 1882: 213. Type locality unknown.

Type material: Holotype BMNH 74.5.26.85 (Fig. 80). No examples of the 'variety' mentioned by Smith appear to be present.

Notes: Axial ribs distinctly opisthocline, shallowly reversed-sigmoid, suture to suture, barely crenulating suture, extending onto rostrum, 13 per whorl; spiral sculpture of fine, scratch-like striae, most distinct on rostrum and behind lip. Lip varix moderately thick, angular; anal sinus very slight, broad; stromboid notch shallow. Parietal pad indistinct. Protoconch papillose, about 1.25 whorls, apparently smooth except for subterminal growth lines, breadth ca. 0.65 mm. Off-white. Dimensions 10.1 x 3.8 mm.



Figs 78–83. *Anacithara ione* (Melvill & Standen, 1896), *A. modica* (E. A. Smith, 1882), *A. minutistriata* (E. A. Smith, 1882), *A. dulcinea* (Melvill & Standen, 1895), *A. levukensis* (Watson, 1881). **78**, *A. ione*, syntype of *Drillia ione*, BMNH 1897.1.22.82–3, 5.8 x 2.5 mm. **79**, *A. modica*, holotype of *Pleurotoma (Mangilia) modica*, BMNH 1874.5.26.79, 5.5 x 2.6 mm. **80**, *A. minutistriata*, holotype of *Pleurotoma (Mangilia) minutistriata*, BMNH 74.5.26.85, 10.1 x 3.8 mm. **81–82**, *A. dulcinea*, holotype of *Mangilia (Daphnella) dulcinea*, BMNH 1897.1.22.40, 5.4 x 2.1 mm. **83**, *A. levukensis*, holotype of *Pleurotoma (Mangelia) levukensis*, BMNH 1887.2.9.1056, 5.7 x 2.6 mm.

Anacithara dulcinea (Melvill & Standen, 1895), **comb n.**

Figs 81–82

Mangilia (Daphnella) dulcinea Melvill & Standen, 1895: 98, pl. 3, fig. 26 [not '25' as given in text]; Trew, 1987: 36. Type locality: Lifou, Loyalty Islands.

Mangilia dulcinea; Melvill & Standen, 1897: 404

Mangilia dulcinea; Bouge & Dautzenberg, 1914: 149.

Type material: Holotype (Figs 81–82) BMNH 1897.1.22.40[–41]. Although the original description refers to 'One specimen', two were registered and a second shell is indeed present in the sample; the disparate shell is a *Pseudorhaphitoma*, and must have been added by accident.

Notes (based on holotype): Whorls convex, with periphery posterior to median. Axial ribs low, slightly sinuous, somewhat opisthocline, suture-to-suture, undulating suture, evanescing below parietal region, in t/s angularly rounded with very gradually sloping sides, slightly wider than intervals, which are shallowly concave (on back of body whorl ribs more widely-spaced with flattened intervals), about 10 on early whorls, 8 on later ones. Spiral lirae close and flattened, more or less alternately broader and narrower, fine below suture, approximately 24 on penultimate whorl; rendered slightly rugose by very fine collabral threads, which pliculate the interstices. Protoconch papilliform, 1st whorl strongly tilted, approximately 1.6 whorls in total, worn; breadth 0.55 mm, height 0.53 mm. Uniform white [faded]. Dimensions: 5.4 x 2.1 mm.

No trace is now visible of the 'minute dust-like brown spots' noted in the original description. The holotype is immature, with a thin outer lip. Worn but more mature topotypes (NMSA H5809, K7266) have an aperture and lip varix that are typical of the genus *Anacithara*; in one the penultimate whorl bears only 17 spiral lirae, which are relatively uniform in strength and more widely spaced than in the holotype, and there is a faint bar of brownish-orange behind the lip varix, anterior to median.

Anacithara levukensis (Watson, 1881), **comb n.**

Fig. 83

Pleurotoma (Mangelia) levukensis Watson, 1881: 432; *idem*, 1886: 340, pl. 23, fig. 7. Type locality: Levuka, Fiji, 12 fathoms.

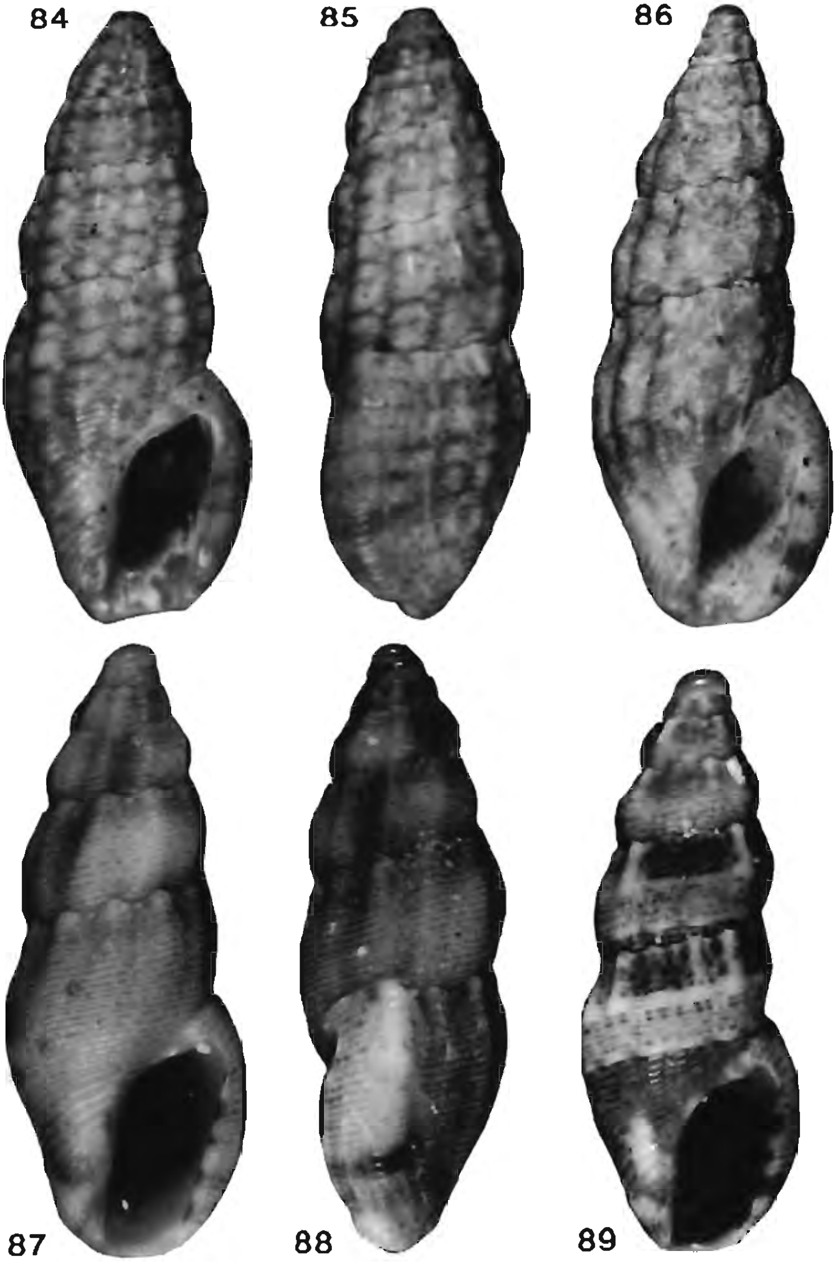
Type material: Holotype BMNH 1887.2.9.1056.

Notes: Although Watson's figure conveys the illusion of detail, his observation that the holotype is 'in too bad condition for detailed description' is an understatement. Indeed, so eroded is the holotype that it is unlikely that the species can ever be recognised with certainty. Of discernible characters, the axial ribs number 7 per whorl, and are rather straight and slightly prosocline. Spiral sculpture is totally worn away. The apparent absence of apertural projections (other than a small parietal pad) indicates that the species probably belongs to *Anacithara*. Dimensions 5.7 x 2.6 mm.

Anacithara themeropsis (Melvill & Standen, 1896), **comb n.**

Figs 84–89

Drillia themeropsis Melvill & Standen, 1896*b*: 278, 397, pl. 9, fig. 10; Trew, 1987: 67. Type locality: Lifou, Loyalty Islands.



Figs 84–89. *Anacithara themeropsis* (Melvill & Standen, 1896). **84–85**, *A. themeropsis*, syntype of *Drillia themeropsis*, MMUE EE 3783, 6.2 x 2.6 mm; **86**, syntype of *D. xanthoporphyria* Melvill & Standen, 1896, MMUE EE 3799, 6.3 x 2.5 mm. **87–89**, *A. ?themeropsis*: NMSA K8414, off Trou au Biche, Mauritius, 5 m: **87–88**, 4.7 x 1.9 mm; **89**, 4.6 x 1.7 mm.

Mangilia themeropsis; Bouge & Dautzenberg, 1914: 155.
Drillia xanthoporphyria Melvill & Standen, 1896*b*: 278, 397, pl. 9, fig. 11; Trew, 1987: 71. Type locality: Lifou, Loyalty Islands.
Mangilia themeropsis var. *xanthoporphyria*; Bouge & Dautzenberg, 1914: 155.

Type material: *D. themeropsis*: figured syntype MMUE EE 3783, 3 syntypes NMWC 1955.158.513-514 (Trew, 1987). *D. xanthoporphyria*: figured syntype MMUE EE 3799.

Notes on types (condition worn): Whorls convex, with periphery more or less median, subsutural region concave, suture strongly crenulated by the ribs. Axial ribs moderately low, slightly sinuous, somewhat opisthocline, suture-to-suture, on base extending onto rostrum, in t/s angularly rounded with steeply sloping sides, more or less equal in width to intervals, which are shallowly concave, 12–13 on later whorls. Spiral lirae low but crisply raised, with an occasional fine intermediary, finer below suture, 18–22 on penultimate whorl; interstices with very fine collabral threads. Protoconch very worn or absent, papilliform. Dimensions: 6.2 x 2.6 mm (holotype of *D. themeropsis*, protoconch lost), 6.3 x 2.5 mm (holotype of *D. xanthoporphyria*).

Notes on species: From the types it is difficult to understand on what basis Melvill & Standen differentiated two species, and Bouge & Dautzenberg (1914) correctly rejected *xanthoporphyria* (Fig. 86) as a violaceous morph of *M. themeropsis* (Figs 84–85), thereby acting as first revisors. *A. themeropsis* is an extremely polychromatic species, varying in ground colour from white or lilac to buff or orange-brown, either uniform or with speckled or banded patterns.

A. themeropsis – or a very similar taxon – is common at Mauritius (Natal Museum Mauritius Expedition, K9034, K9755). Although fresh topotypes of *themeropsis* are not available for comparison, members of the Mauritian population (Figs 87–89) differ in size (length not exceeding 4 mm), more pupoid shape, deeper shoulder concavity, only 10 axial ribs on later whorls and a peculiarly 'skew' protoconch; coloration is as variable as in Lifou examples.

Anacithara(?) lita (Melvill & Standen, 1896)

Figs 90–91

Clathurella lita Melvill & Standen, 1896*b*: 294, pl. 10, fig. 39; *idem*, 1897: 402; Trew, 1987: 50. Type locality: Lifou, Loyalty Islands.
Mangilia lita; Bouge & Dautzenberg, 1914: 152.
Mangilia lita var. *alba* Bouge & Dautzenberg, 1914: 152.
Mangilia lita var. *zonata* Bouge & Dautzenberg, 1914 (*non Mangelia zonata* Reeve, 1846): 152.
Anacithara (Anacithara) lita; Powell, 1966: 111.

Type material: Figured syntype MMUE EE 3755, here designated as lectotype (Figs 90–91, dimensions 4.2 x 1.9 mm).

Notes on lectotype: Whorls very slightly shouldered below suture, suture deep, not crenulated by rib terminations; outer lip strongly convex in side view, stromboid notch deep. Axial ribs slightly arcuate, opisthocline, reaching suture and upper part of rostrum; in t/s low and rounded, with compressed sides, more or less wider than intervals, 11–12 per whorl. Spiral lirae relatively coarse, but narrower than ribs, widely-spaced, 4 on 1st whorl, 7 on penultimate one, base with 3 + 3 feebly nodular ones on rostrum. Interstices with microscopic collabral threads. Protoconch domed, of 1.25 smooth whorls, 1st whorl tilted; breadth 0.65 mm, height 0.40 mm. Uniform pale orange-buff [also white or with 2 brown bands].

This species is atypical for *Anacithara* in sculpture and is closest in general appearance to *Striatoguraleus laticulmen* and *S. electrinus* spp. n. The protoconch of fresh specimens should be examined for spiral sculpture.

Anacithara(?) platycheila (E. A. Smith, 1882)

Fig 92

Pleurotoma (Mangilia) platycheila E. A. Smith, 1882: 214. Type locality unknown.

Type material: The holotype, BMNH 74.5.26.81 (Fig. 92), bears a note in Smith's handwriting 'the expanded lip was unfortunately broken off'; length 6.2 mm.

Notes on holotype: Axial ribs weakly crenulating suture, slightly arcuate, opisthocline, in t/s very slightly angularly rounded, 11 per whorl throughout. Spiral lirae narrow, rounded and close, becoming more widely spaced on base of body whorl (tip of rostrum missing); beginning of 1st teleoconch whorl with 3 wide-set spiral lirae, penultimate whorl with about 18 (plus an occasional intermediary thread). Protoconch domed, smooth, of about 2 whorls, breadth 0.61 mm.

Anacithara(?) querna (Melvill, 1910)

Fig. 93

Mangilia querna Melvill, 1910: 13, pl. 2, fig. 23; Melvill, 1917: 176; Trew, 1987: 60. Type locality: off Charbar [= Chah Bahar], Mekran Coast [Iran], 40 fathoms.
Anacithara (Anacithara) querna; Powell, 1966: 111.

Type material: Two syntypes BMNH 1912.8.16.108-9; one marked with a red dot is here designated as lectotype (Fig. 93), dimensions 5.3 x 2.1 mm. Three syntypes NMWC 1955.158.496 (Trew, 1987).

Notes: Axial ribs angularly rounded in t/s, 8–9 on 1st whorl, 8 on penultimate one, barely crenulating suture; spiral sculpture absent, except for 6–7 weak lirae on rostrum. Protoconch papilliform, of about 1.6 whorls, last half whorl with a strong basal keel, breadth ca 0.60 mm. Pale brownish-orange, ribs, base and aperture paler.

M. querna is tentatively referred to *Anacithara*, but will probably prove referable to *Graciliclava*. It differs from the following species in lacking a rostral cord.

Graciliclava Shuto, 1983

Graciliclava Shuto, 1983. Type species (o.d.) *G. mackayensis* Shuto, 1983 [= *Clavus costatus* Hedley, 1922].

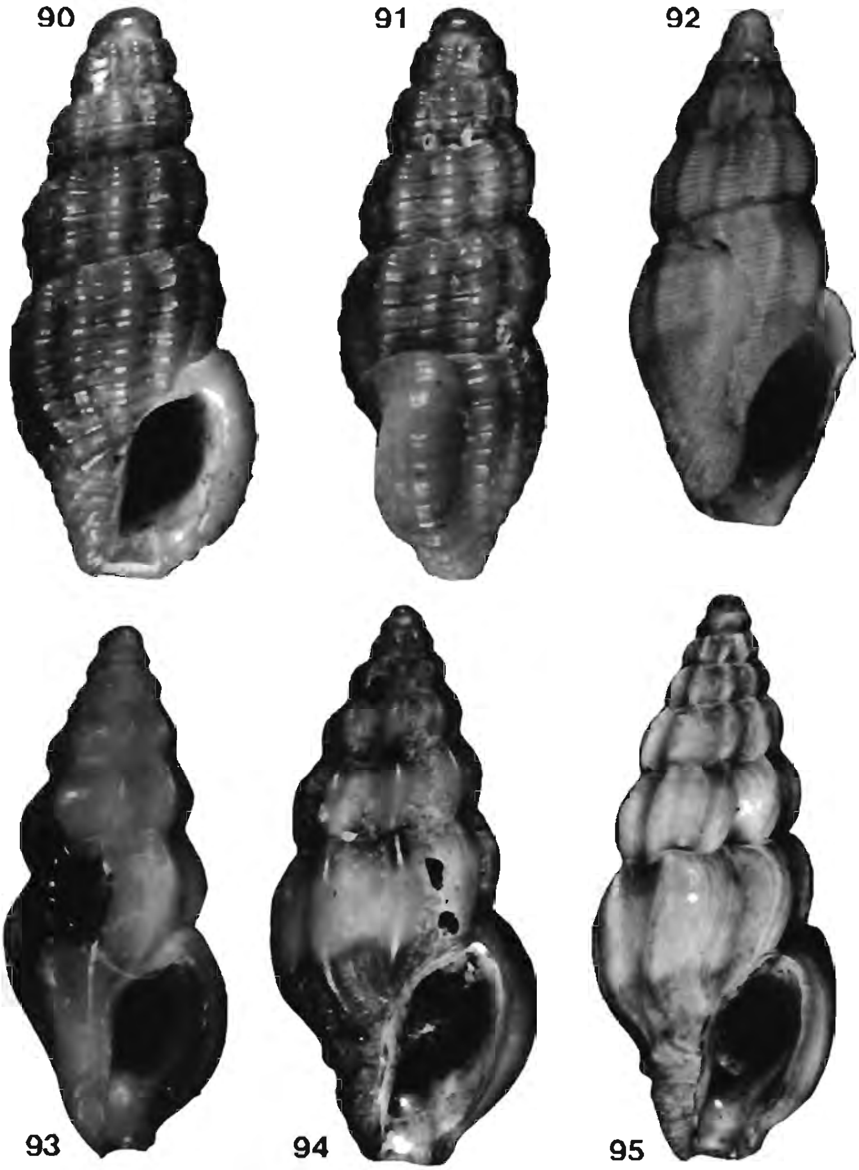
Notes: See also *Anacithara(?) querna* above.

Graciliclava costata (Hedley, 1922), **comb n.**

Figs 94–95

Clavus costatus Hedley, 1922: 256, pl. 45, fig. 48-49; Wells, 1991: 8, pl. 2, figs 10–11 (holotype). Type locality: off Darnley Is., Torres Strait, Queensland, 40 m.
Graciliclava mackayensis Shuto, 1983: 11, pl. 1, figs 2-5, textfig. 6 [**syn. n.**]. Type locality: E. of Mackay, Queensland, 35 m.

Type material examined: Holotype of *C. costatus* AMSA C.8053 (Fig. 94), that of *G. mackayensis* AMSA C.134685 (Fig. 95).



Figs 90–95. *Anacithara(?) lita* (Melvill & Standen, 1896), *A.(?) platycheila* (E. A. Smith, 1882), *A.(?) querna* (Melvill, 1910) and *Graciliclava costata* (Hedley, 1922). **90–91**, *A.(?) lita*: lectotype of *Clathurella lita*, MMUE EE 3755, 4.2 x 1.9 mm. **92**, *A.(?) platycheila*: holotype of *Pleurotoma (Mangilia) platycheila*, BMNH 74.5.26.81, length (lip broken) 6.2 mm. **93**, *A.(?) querna*: lectotype of *Mangilia querna*, BMNH 1912.8.16.108–9. **94–95**, *Graciliclava costata*: **94**, holotype of *Clavus costatus*, AMSA C.8053, 6.0 x 3.0 mm; **95**, holotype of *Graciliclava mackayensis* Shuto, 1983, AMSA C.134685, 7.2 x 3.2 mm.

Notes: Although the respective holotypes have been well illustrated elsewhere, I show them here together, to demonstrate their similarity. Apart from the possession of a single extra axial rib in *G. mackayensis*, the only observed difference lies in the protoconch. In the holotype of *costatus* protoconch whorls number about 2.25, but in that of *mackayensis* there are about 2.50; in the former, the protoconch termination is preceded by a few arcuate axial riblets, absent in the holotype of *mackayensis*. However, teleoconch characters are in such close conformity that I have no doubt that individual variation is responsible for apparent protoconch differences.

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